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**Rights on the Edge:  
The right to water and the peri-urban  
drinking water committees of  
Cochabamba**

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Institute of Development Studies

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And George. You are the most wonderful partner. This would have fallen to pieces a long time ago without your support, patience and love.



I hereby declare that this thesis has not been and will not be, submitted in whole or in part to another University for the award of any other degree.

**Signature:**.....

University of Sussex  
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DPhil Development Studies

**Rights on the Edge:  
The right to water and the peri-urban drinking water committees of  
Cochabamba**

**Summary**

This thesis examines how constitutional reforms relating to the right to water in Bolivia have affected water provision in peri-urban Cochabamba. This multi-sited ethnography explores how the right to water has framed reforms to the Bolivian water sector, how and why the right to water has been contested in Bolivia, the impact of reforms to the water sector on peri-urban water committees and emerging challenges and opportunities for sustainable water provision in peri-urban Bolivia.

It demonstrates that despite the high profile role played by Bolivia in advancing the right to water at the international and national level, in practice the right to water continues to be a fairly nebulous concept. There is a disconnect between Bolivia's international stance on the human right to water and national reforms around the right to water. This thesis contends that the right to water is a banner under which the water sector has been reformed since the election of Evo Morales in 2006. Even though the constitution states that everyone has the right to water, in practice water often continues to be provided through community providers such as drinking water committees (DWCs), largely due to the failure of municipal water provision. Reforms and policy have focussed on (re)nationalising the sector and establishing new institutions to regulate and develop diverse water providers such as peri-urban DWCs.

Through detailed ethnographic examination of peri-urban Cochabamba, the thesis demonstrates that activists and community-water providers in rural and peri-urban areas have contested reforms linked to the right to water. They have contended that reforms have the potential to undermine community water systems, and furthermore, that the state has failed to guarantee basic human rights and service provision. To date, the state and non-state initiatives to enhance the sustainability of DWCs have focussed on certain elements of sustainability, specifically protecting the aquifer and enhancing institutional sustainability of DWCs. By drawing on the experience and development of one DWC, this thesis also explores further elements that present challenges and opportunities to enhance sustainable water provision in peri-urban areas, namely building equitable access, and the reconciling of local power relations.

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## Acronyms and Terms

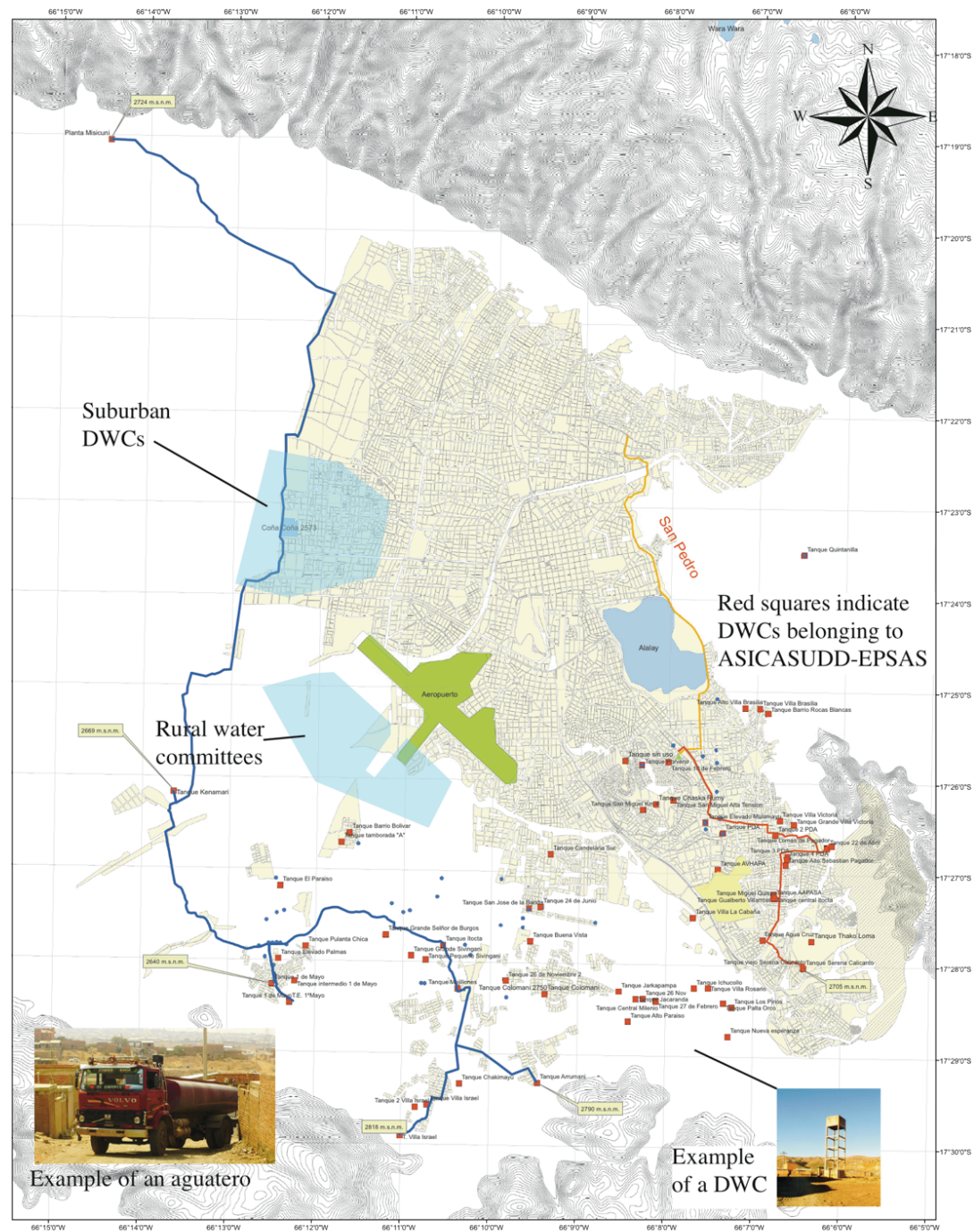
Aguatero	Water Vendor
ASICASUDD-EPSAS	The Association of Communitarian Water Systems and EPSAS of the Zona Sur and the department
AAPS	Autoridad de Fiscalización y Control Social de Agua Potable y Saneamiento Básico The Supervisory Authority for Social Control of Drinking Water and Sanitation
Ayullu	Indigenous council
Campesino	Peasant
Co-gestion	Co-management
CTRL	Technical Committee of Licenses and Registries
Dirigente	Leader
DWC	Drinking Water Committee
El Gran Salto Industrial	The Great Industrial Leap
EPSAS	Water and Sanitation Providers
FEDECOR	The Cochabamba Departmental Federation of Irrigator Organizations
FUNDASAB	New Basic Sanitation Foundation
Loteadora	Individuals who steal or appropriate land before selling it off in blocks for houses to be built
Manzana	Block
MAS	Movement for Socialism
MNR	The National Revolutionary Movement
MMAYA	Ministry for the Environment and Water
OTBs	Formal indigenous or neighborhood organizations. Established through the Popular Participation Law 1994
PNSB	National Plan for Basic Sanitation
PND	National Plan for Development
IAB	Inter-American Development Bank
SEMAPA	Municipal Potable Water and Sanitation Service
SENASBA	National Service for the Sustainability of Basic Sanitation Services
Turil	Barrel
Vecino	Resident
Vivir Bien	Living Well

Map 1: Bolivia and regions





### Map 2 Cochabamba and some of its informal water providers



**Asociación de Sistemas Comunitarios de Agua  
del Sud, Departamental y Entidades  
Prestadoras de Servicio de Agua y  
Saneamiento**

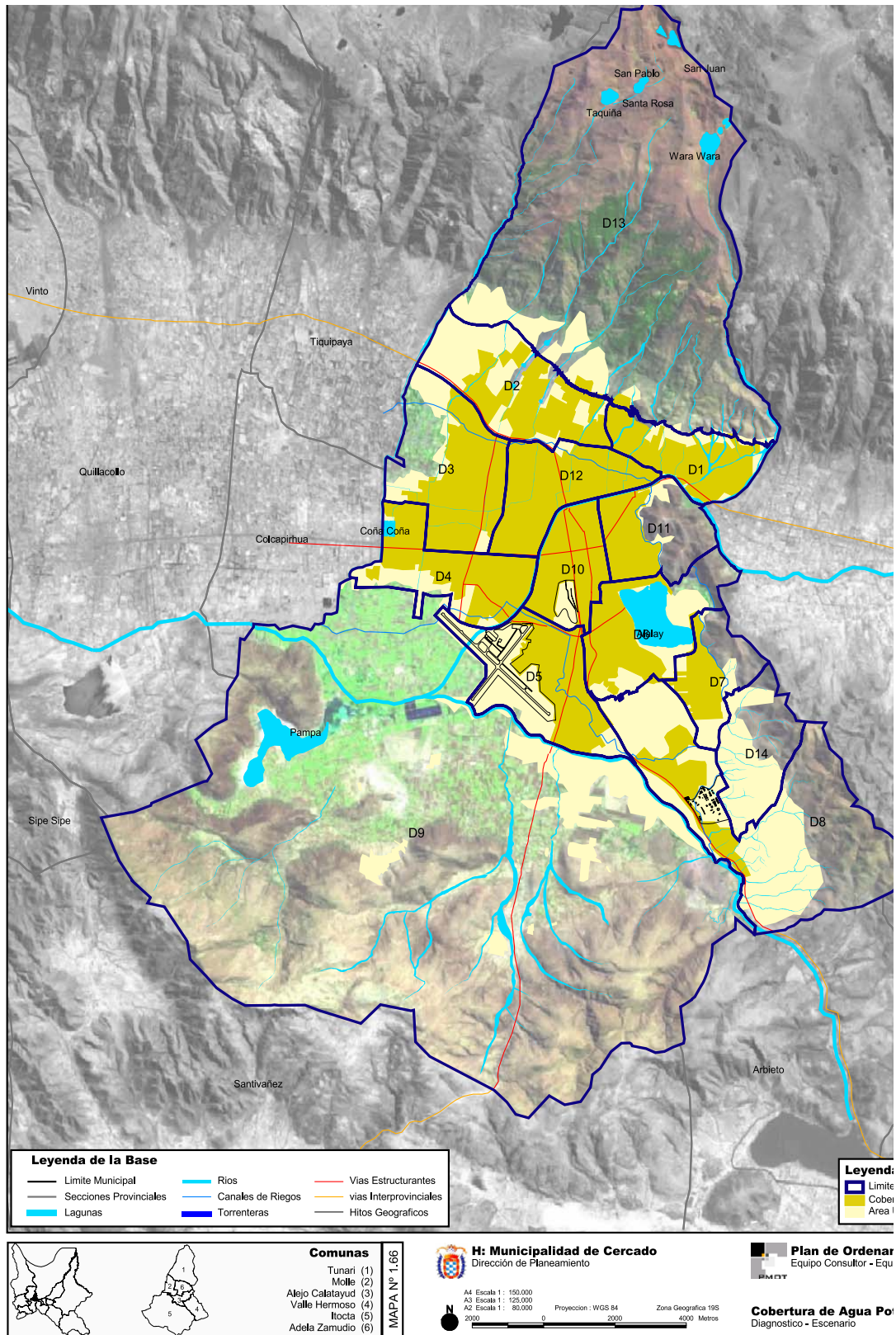
**Propuesta: Aducción Misicuni - Zona Sud**

Fecha: 10 de Octubre 2012

## Referencia

- |  |                     |
|--|---------------------|
| — Aducción SUDESTE                               | — Aducción J.I.C.A. |
| — Aducción Planta Misicuni-Villa Israel-Arrumani | ■ Tanques           |
| ▲ Estación Elevadora Siglo XX                    | — Curva de Nivel    |
| • Pozos (ASICASUDD)                              |                     |

**Map 3: SEMAPA water coverage 2001**



## Chapter 1: Introduction

In Bolivia during the 2000s men and women from the city, the country and marginalised peri-urban settlements, earned themselves an international reputation as the world's Water Warriors (Finnegan 2002). At the beginning of the decade Bolivians rejected neoliberal reforms focussed on restructuring the water sector, which in turn threatened the autonomy of local water providers. This rejection manifested itself in a series of uprisings against the privatisation of water services and the commodification of water across the country, most notably the Cochabamba Water War in 2001 (Assies 2003; Crespo 2003; Shultz 2003; Bustamante 2004; Olivera and Lewis 2004). In 2006, the people of Bolivia elected Evo Morales, their first indigenous president. Morales was himself involved in the Water War and has presided over a government that has played a key role in the international water justice movement by lobbying against the privatisation of water services and in favour of the right to water (Bustamante, Crespo et al. 2011). The right to water was never a central demand of the Bolivian social movements involved in the Water War or any of the uprisings in other parts of Bolivia. Nonetheless, domestically the government has overhauled the Bolivian water sector based on the idea of the human right to water. Speaking in a press conference on March the 22<sup>nd</sup> 2010, International Water Day, President Morales outlined his commitment to the recognition of the right to water internationally and in Bolivia.

Water is essential for life and for humanity as a whole, there can be no life without water and without life there are no human rights... the UN must consider incorporating access to safe water and basic sanitation as a universal human right... the United Nations system can adopt progressive measures to promote and ensure national and international recognition of the right, making it universal and effective... Bolivia has knowledge and expertise on this topic since it has recognised that basic services like water (are) a human right and not a commodity. (Los Tiempos 2010)

Several months after Evo Morales made this statement, the Bolivian Ambassador to the UN, Pablo Solon, presented a resolution to the



General Assembly that led to the recognition of the human right to safe, clean water and sanitation. This was in fact the product of at least a decade of campaigning and lobbying by the international water justice movement.<sup>1</sup> The UN has since called upon all member states and international organisations to provide financial resources, capacity building and technology transfer to help countries, in particular developing countries, to recognise this right (UNGA 2010). Unsurprisingly, two years after the resolution was passed, progress has been limited. Not all member states have backed the resolution and there are extensive challenges in developing an international legislative framework that is justiciable (Deen 2012). Meanwhile domestically, since the election of Evo Morales in 2006, the Bolivian government has implemented extensive reforms to the water sector under the banner of the human right to water. These reforms have focussed on improving access to water and sanitation, but they also set out to recognise the role, uses and customs of community water providers in rural and peri-urban areas (Estado Plurinacional de Bolivia 2008).

But what does the right to water mean for access to water in previously neglected areas such as the peri-urban interface? Take the case of Barrio 15 de Febrero,<sup>2</sup> where there is a disconnect between Bolivia's international commitments and on the ground realities. In the southern peri-urban fringes of Cochabamba known locally as the *Zona Sur*, the city's poorest residents have settled in informal barrios that began emerging during the 1980s as a result of multiple waves of economic migration. These communities have always relied on water from informal providers, namely vendors and communal water systems. Barrio 15 de Febrero was founded in the early 1980's and has a Drinking Water Committee (DWC), established by the community with the support of the

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<sup>1</sup> International network of diverse social justice organizations, indigenous peoples, trade unions, environmental groups, farmers, writers, academics, human rights advocates, community activists and networks which share a vision of water as a fundamental human right

<sup>2</sup> Pseudonym

church, Agua Sur,<sup>3</sup> that is managed by the community according to principles of mutual aid and local uses and customs. The water provided by the DWC is more expensive than that provided by the public utility in the centre of the city, furthermore, the committee extracts water from the aquifer that is contaminated, saline and depleted (Ghielmi, Mondaca et al. 2008). The community, however, continues to develop their DWC under challenging conditions. The reason for this is that they have been let down by the state on numerous occasions and they have little faith in the idea of the right to water and state reforms to improve access to water. The president of Agua Sur explained:

We have a very beautiful constitution, which talks about the right to water and says that we all have the right to water, it is very pretty. So they say, 'In Bolivia you must all be so happy they have recognised the right to water,' but the reality is something else... What is written is one thing, but the reality is different. People say 'We have the right to water!' but there is no water! We would like to be able to see the right to water in action, but how can we when there is no water...The Bolivians have all fought and blockaded for water, and now we have *The Right*, but now what do we do, and what does it mean? There is no water here, the state has not brought it, so we have to do something ourselves.<sup>4</sup>

This thesis explores the disjuncture between the Bolivian reforms under the banner of right to water and the reality of water provision in peri-urban barrios like Villa 15 de Febrero. It further probes the role and capacity of community providers in peri-urban areas and the challenges and opportunities to enhance sustainable water provision in these areas. In principle, reforms to recognise the right to water aim to ensure that everyone has access to sufficient, clean water and, in turn, recognise the role that DWCs can play in this endeavour. Questions remain about how policies around the right to water have been implemented; how access to water in peri-urban areas can be improved and what impact these policies have had on water provision in practice. The right to water has been a potent call to arms internationally, but how has it shaped policy and legislation in Bolivia since 2006; how has the discourse of the right to

---

<sup>3</sup> Pseudonym

<sup>4</sup> Water Committee President, Cochabamba, May 30th

water developed over time, and what the challenges associated with developing the concept into a justiciable human right. These are all questions that will be considered in this thesis.

Constitutional amendments and reforms to the water sector after 2006 at first appear progressive. In principle the state has prohibited private sector participation. It protects local rights to provide and access water sources and is committed to improving access to water across the board (Estado Plurinacional de Bolivia 2008). However, the right to water and associated reforms to the water sector have received a lukewarm reception from some actors with an interest in the Bolivian water sector (CGIAB 2010; Crespo 2010). Despite the extensive constitutional reforms that have been undertaken, water activists, academics and some DWC representatives have been cautious about state-led developments in the water sector, often using a discourse of community-led provision as an alternative method for recognising the right to water (Bustamante, Crespo et al. 2011). Even though government policies appear to support the role of community water providers, some community providers and activists have voiced concerns encroachment of the state and the universalization of water services in peri-urban areas. This research probes why and how these diverse actors have contested the overarching aim of recognising a human right to water in the Bolivian context.

It is estimated that there are over 28.000 formal and informal water providers in Bolivia (SENASBA, 2009) but only 27 are comprehensively regulated (MMAYA, 2012). Many of these unregulated providers in rural and peri-urban areas are community-led water systems. Consequently, while social movements and organisations promote the idea of community management, the state also has to engage with community providers. Community-led water providers and the discourse of community provision are especially potent in Cochabamba because of the vacuum left by the public municipal provider SEMAPA (Municipal Potable Water and Sanitation Service), and also due to the uprisings against the privatisation of water services and in defence of community

water systems in 2000 known as the Water War. In Cochabamba, formal barrios in the city are served by SEMAPA, whereas drinking water committees (DWCs) and/or private vendors serve peri-urban and suburban communities. It is estimated that there are between 500 and 600 (Lavrillex and Compere 2006) community water systems in the metropolitan area of Cochabamba, 149 of these are in the peri-urban region known locally as the Zona Sur (Duran 2007).

Community provision or community participation in the co-production of water services is often posited in opposition to state-led provision and a universal system (CGIAB 2010). This dichotomy materialises in the conflicting solutions to water provision that have been proposed for the peri-urban Zona Sur of Cochabamba. On the one hand, the state and the public utility SEMAPA continue to promote large-scale technocratic fixes to water provision in Cochabamba, specifically the Misicuni dam (discussed in chapter 5) and the expansion of public provision by SEMAPA in Zona Sur. On the other hand, community providers continue to lobby in defence of the right and capacity of DWCs to produce and co-manage/produce water services (ASICASUDD-EPSAS). In this thesis I explore to what extent reforms to the water sector under the banner of the right to water actually support DWCs as viable water providers in the Zona Sur.

Partnerships for the co-production of water services between the community and the state are often considered as a viable opportunity to improve access to water in peri-urban areas (Allen 2012). In the peri-urban Zona Sur, DWCs and NGOS supporting community water providers contend that established DWCs could efficiently meet the water needs of local communities through such co-production partnerships, known locally as *co-gestion* (co-management). In this thesis, I explore some factors that provide challenges to, and opportunities for, enhancing the sustainability of peri-urban DWCs. This includes an analysis of the environmental and institutional sustainability of DWC-led water provision but also extends to consider some of the lesser-explored social dynamics

that can affect the sustainability of DWCs. I specifically explore challenges and opportunities around achieving equitable water provision within and beyond the community, and also how power relations between the community and the state, and within the community, can affect the sustainability of water provision.

### **Research objectives and questions**

I began the research for this thesis a decade after the Cochabamba Water War in 2000. Ten years on, some of the anti-establishment water warriors were now part of the state and some seemingly radical constitutional articles had the potential to reform the water sector. I was interested to understand how the right to water was being translated into policy in Bolivia and the effect it has had on water provision in some of the most marginalised communities; the poor peri-urban communities that are often un-served by the state. This thesis endeavours to understand why the right to water has been so central to reforms to the water sector and how the discourse of the right to water is translated into policy and what its implications are for the sustainability of communal water provision in peri-urban areas.

Developing comprehensive, universal water provision in peri-urban areas is technically challenging (Marshall, Waldman et al. 2009). Local water resources can be undermined by over-use or contamination, while public or private utilities tend not to provide to informal peri-urban settlements (Allen, Davila et al. 2006). Over time it becomes increasingly challenging to expand mainline water services into sprawling informal settlements. Planners are faced with installing infrastructure for a region that has already urbanised. Developing a water policy based on human rights based approaches has been critiqued for having limited potential in marginalised communities such as those in the peri-urban interface, because of its informal nature. The right to water, like all human rights, is dependent on a functioning relationship of rights and obligations between citizens and the state. In peri-urban areas, this relationship is not necessarily established and functioning and informal communal



institutions serve the needs of communities too. Men, women and children in the peri-urban regions are often un-served by the public or private water and sanitation utilities. State-citizen relations here are contested and weak because populations here are often not fully recognised as citizens (Allen, Davila et al. 2006). The state may not provide comprehensive basic services, while communities may be informal and individuals may not pay taxes or have formal jobs. Consequently, tackling water provision in the peri-urban interface becomes more than just a technical challenge; there are also political and social hurdles to negotiate. The capacity of DWCs and diverse communal providers that have emerged to meet the needs of peri-urban communities are poorly understood. This research explores the role and capacity of DWCs, and the role they may play in the recognition of the right to water.

Understanding the capacity of DWCs is pertinent not only in Bolivia but also across Latin America. Privatisation is no longer universally billed as the panacea for improving access to water; some states have reverted to public provision, public-private partnerships, or are experimenting with more complex configurations that incorporate the community and DWCs (Hall, Lobina et al. 2010). This is increasingly the case in peri-urban regions across Latin America, such as La Sirena in Cali and parts of Caracas, where communities are playing an active role in the production or co-production of water services (Spronk, Crespo et al. 2012). Meanwhile, Latin American NGOs and regional coalitions of communal providers such as The Latin American Confederation of Communitarian Water and Sanitation Services (CLOCSAS) and The Platform of Agreements for Public and Communitarian Cooperation (PAPC) (PAPC 2012) have started drawing attention to how communal water providers are not merely coping mechanisms for water provision. Instead, they argue that these institutions have the potential to operate as legitimate water providers or to co-produce services with the state in peri-urban and rural areas (ibid). Some contend that they should play a role in the realisation and implementation of the right to water. This thesis considers

the capacity, role and institutional sustainability of DWCs in the peri-urban interface, furthermore, this research considers how DWCs relate to state-led initiatives to universalise access to water in peri urban areas and recognise the human right to water. Specifically this thesis considers how the discourse of the right to water fits with the discourse of community-led water provision and the tensions that exist between the two discourses. Indeed, the complex reality of water provision in the peri-urban interface, specifically the juridical plurality that characterises water provision in this region is often absent from policy debates surrounding the right to water.

This thesis endeavours to explore not only the challenges facing DWCs as water providers, but also the opportunities that exist within the emerging partnerships for more sustainable water provision in the peri-urban interface. Arguments for co-production or the *co-gestion* of water services in the Zona Sur are often based upon the premise that water or infrastructure will be supplied by the state and the communities will manage water provision. I consider how sustainable community-led water provision is in the Zona Sur, specifically focusing on the partnerships and projects for the co-production of water services that are already underway.

There is a tendency to focus on the environmental impact of peri-urbanisation, specifically on the impact that informal communities and informal basic services such as DWCs have on local environmental integrity. This thesis principally explores the institutional sustainability of DWCs and their emerging co-production partnerships with the state. It further considers how these co-production partnerships might provide opportunities or challenges to build local environmental integrity and social justice in the form of equitable water provision in relation to other water providers in the municipality. Finally, the peri-urban interface is characterised by institutional plurality. State and non-state actors exist side-by-side, power relations between the two tend to be in a state of flux. Meanwhile communities are dynamic and heterogeneous and can be fragmented and subject to sudden change. This thesis explores how

these dynamics can shape the institutional sustainability of DWCs and also how they present challenges or opportunities to build local environmental integrity and social justice in the peri-urban.

### **Research questions**

This study examines how constitutional reforms relating to the right to water in Bolivia have affected water provision in peri-urban Cochabamba, specifically:

- a. How the right to water has been developed and implemented in Bolivia.
- b. How and why different actors in the peri-urban interface have contested the right to water.
- c. How have reforms since 2006 affected the operations of DWCs in peri-urban Cochabamba.
- d. What are the challenges and opportunities to enhance sustainable water provision in peri-urban Cochabamba.

In order to understand how reforms around the right to water affect peri-urban communities, this research was undertaken on multiple levels aiming to build on the body of literature relating to the development and implementation of the right to water. I spoke to policy makers in central government, planners in municipalities and also social movement leaders, activists, NGOs and academics who had played a role in the Water War, or the growing politics of water provision and post Water War era. In particular those who had been engaged since reforms to the sector were opened up to be influenced by popular participation in 2006. Social movement leaders, community representatives, leaders of communal water providers and activists who were engaged in the politics of local water provision in the peri-urban interface provided a politicised insight into water provision in the peri-urban interface that reflected the aims and objectives of their movement or organisation. It was during these conversations that I began exploring how and why reforms to recognise the right to water were often contested, with alternative

proposals relating right to water, and improving access to water, based on the role and capacity of community providers.

### **Context and approach**

In order to understand how reforms to the water sector affect peri-urban communities, I focused on the experiences of one peri-urban barrio almost 8km south of the city centre called Villa 15 de Febrero. I began by researching the historical development of this barrio and its water supply. I was able to do this because it was founded in 1980 and many of the first settlers still lived in the settlement. Then, using ethnographic and participatory methods, I explored the social challenges that affected communal water systems in the peri-urban interface. Here I explored how people have accessed and used water over time, their relationship with the local water committee and how they participate in the development and management of the DWC. This was then supplemented by data gathered using institutional ethnography of the DWC, looking at how it operates, relates to its members and facilitates government and NGO initiatives to improve access to water in the peri-urban interface. The ethnographic data that I gathered in the Zona Sur was then complemented with further interviews with engineers and academics that have been undertaking research into the physical and environmental challenges for water providers and water provision in the peri-urban interface.

### **Personal motivation**

Before beginning this fieldwork, I did not have an established link with Bolivia. I was drawn to the country because I was looking to undertake a multi-sited ethnography that explored the impact of the right to water in the peri-urban interface. Water provision is at the core of this thesis and, as an essential liquid for life, it provides a pertinent and interesting lens by which to explore social relations. Adopting the human right to water means re-ordering established social relations according to a commitment to ensuring that everyone has the right to water. Bolivia provided an interesting and feasible case study: it is a large and diverse

country, but the population is relatively small, at less than 10 million. After some preliminary research it appeared that I would be able to explore and undertake research with actors in the central state, the municipality, within social movements and that I would also be able to undertake in-depth ethnographic work with a peri-urban community. Most importantly the state had made vocal commitments to the human right to water both nationally and internationally.

My focus on the peri-urban interface developed out of my interest in the fringes of cities and the informal and community organisations that emerge here. My first attempt at ethnographic fieldwork was on the edges of Kiev and Lviv in the Ukraine where I explored how communities used their homes as sites of resistance against the soviet state and a space to maintain and develop the Ukrainian identity for almost 50 years. As part of my Master's Degree I undertook fieldwork with railway slum-dwellers' associations in Mumbai who were involved in the design and development of housing as part of re-housing projects on the edge of the city, and investigated the political leverage embedded therein. I also spent two years with an NGO facilitating and evaluating the sustainability of community-led regeneration projects with community organisations and residents associations in north London. The idea of the 'community' in urban settings seemed fairly nebulous to me, but I remained interested in developing a better understanding of how the community organises in highly dynamic and challenging settings, such as the peri-urban interface. As this thesis developed, I wanted to move beyond assessments of the community based on its capacity to achieve local social justice and to consider broader ideas of sustainability. As a STEPS centre student I have had the opportunity to discuss and develop my understanding of sustainability over time and the STEPS centre approach is reflected in my thesis.

While I did not have an established link with Bolivia when I left the UK to embark on my fieldwork in September 2009, I ended up extending my fieldwork and re-visiting Cochabamba in the autumn of 2011. The initial

months in the field were challenging, the terrain, the language, the culture, the people are unique, and it takes time to immerse yourself in that and to even begin to understand the significance of some of those differences. As a result of the extensive support and friendships I developed with informants and other researchers in Bolivia, I now have a strong affinity with the country, and intend to pursue further work and research in the Andes.

### **Contribution**

There has been extensive theoretical discussion about the potential and limitations of a human-rights approach to water provision (Bakker 2007, Sultana and Loftus 2012, Mehta 2005, Castro 2003). This thesis set out to undertake in-depth empirical research into how the right to water is translated from rhetoric into policy and practice in peri-urban Cochabamba, which is largely un-served by the municipal utility water provider. It explores the potential of the right to water in a country where water providers are highly heterogeneous, and where informal and community provision dominates rural and peri-urban areas. Specifically, this thesis makes an original contribution to knowledge by exploring how the right to water can be implemented in peri-urban areas, and significantly how it has been received in peri-urban areas. This thesis explores how reforms are implemented in light of the institutional and juridical plurality that characterises Bolivia (Assies, Haar et al. 2000; Regalsky 2009).

Community-led water provision has been the subject of extensive research in rural areas particularly in the Andes. The focus has tended to rest on rural irrigation systems and specifically how the state has negotiated institutional plurality, but also how irrigation systems have reconciled local water rights, uses and customs with national water reforms (Boelens, Dávila et al. 1998; Beccar, Boelens et al. 2002; Trawick 2003; Roth, Boelens et al. 2005; Boelens 2008). There has been limited research investigating communal potable water providers in the Andes or elsewhere. Communal drinking water providers in peri-urban

areas are a relatively new phenomenon for research. This thesis contributes to a growing body of literature that recognises that there is a broad spectrum of communal arrangements that have emerged in unserved peri-urban areas. Research relating to these water committees has tended to focus on gathering quantitative data, or is focussed on interviews with committee leaders (Terhorst 2003; Wutich 2006). This thesis endeavours to develop an in-depth understanding of the capacity and role of DWCs in peri-urban areas and how local water rights, uses and customs are reconciled in light of reforms to universalise access to water. This thesis recognises that the exclusion of peri-urban communities from mainline water provision is the product socio-economic inequalities as well as infrastructural and physical water deficits (Castro 2003). It also reflects on the long history of exclusionary practices by Latin American states that have led to social conflicts in reaction to undemocratic reforms to the sector, particularly under neoliberalism (Castro 2008). This thesis explores to what extent Morales' apparently leftist reforms to the sector have been contested by activists, and also by DWCs in peri-urban areas.

The peri-urban interface has been subject to extensive research into the processes that define and characterise it, but the voices of those living in peri-urban zones are rarely heard. This thesis uses ethnographic methods to present the history and voices of one peri-urban community in an attempt to colour and enliven the debate and literature relating to informal water providers in peri-urban zones. This doctoral research was carried out in Cochabamba, a city that became famous through the Water War and which is prone to water shortages (Marvin and Laurie 1999). Furthermore, I found few in-depth ethnographies of the peri-urban southern zone of Cochabamba, aside from Goldstein (2004) who explores violence and the rule of law in peri-urban zones, in contrast, El Alto, which is technically a city that is closely tied to the capitol La Paz and has many peri-urban characteristics, had been the subject of several

enlightening ethnographies (Gill 2000; Lazar 2008)<sup>5</sup>. This thesis develops a qualitative understanding of peri-urban areas and contributes to literature relating to water provision in peri-urban zones (Allen, Davila et al. 2006; Marshall, Waldman et al. 2009; Allen 2012).

The water committees of Cochabamba have been explored to some extent (Terhorst 2003; Zibechi 2009) however, I found that this research often had an ideological bent and had been mediated by the federation of water committees or by international NGOs working to promote public-public partnerships.<sup>6</sup> Furthermore, it did not reflect on the experiences of committee members and how the service worked in practice. I was keen not to affiliate myself with any organisation or research institution, because of the alliances that exist between different research institutions, NGOs, social movements and the state or certain civil servants and the tendency to direct researchers towards well-trodden field sites and well-versed informants. Maintaining my independence made the process somewhat longer, but it allowed me to map out for myself the actors that I wanted to interview and maintain neutrality. This research also contributes to a growing body of literature that is concerned with moving beyond analysis of the anti-neoliberal rebellions such as the Water War, to explore the extent to which reforms undertaken since the election of Morales in 2006 mark a significant departure from the neoliberal governments of the past (Webber 2011).

Finally, this thesis considers the challenges and opportunities to enhance sustainable water provision in peri-urban Cochabamba. Specifically it explores how efforts to realize and promote reforms since 2006 may have supported or undermined various aspects of sustainable water provision. In addition to considering environmental and institutional sustainability,

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<sup>5</sup> In this thesis I suggest that this is because El Alto presents a more culturally homogenous region, built around a shared Aymara identity, while the southern zone of Cochabamba historically has been subjected to more fragmented migration and development.

<sup>6</sup> Apart from Wutich's work on water and reciprocity and Cielo and Cespedes' work on migratory patterns who take a quantitative survey based approach to understand the region and others such as Terhorst 2003 who focus on the water committees but from the perspective of the federation and NGOs that represent and work with them.



there is an emphasis in this thesis on factors that affect the sustainability of community-led water provision in peri-urban zones, such as equity and the impact of local power relations. This is a significant contribution to knowledge as these issues are generally not included in established frameworks and associated plans for sustainable water provision (WaterAid 2011, Unicef-WHO 2011).

### **Argument**

In this thesis I attempt to demonstrate that there is a disconnect between Bolivia's international stance on the human right to water and domestic reforms around the right to water, arguing that activists and social movements in Bolivia contest the right to water because the idea of a universal state-sanctioned human right to water is perceived to threaten the autonomy of community-water providers. Furthermore, weak bonds between citizens and the state, the inability of the state to guarantee basic human rights and service provision in practice and inherent mistrust has led to a tendency towards community-led solutions in rural and peri-urban areas.

In practice the right to water remains nebulous in Bolivia. There is no justiciable legislative framework surrounding it and draft proposals for water laws do not appear to be focussed on developing a justiciable right. I demonstrate that the right to water is thus a banner under which the water sector has been reformed since the election of Evo Morales. The constitution states that everyone has the right to water, in practice this means water provision is now the responsibility of the state, but can be provided through public utilities, cooperatives, community providers, like drinking water committees or mixed entities.

Reforms and policy have thus focussed on consolidating state control over the sector, thus (re)nationalising the sector and establishing an extensive state bureaucracy and institutionality around water provision. While the state was streamlined under the neoliberalism era it has now been extended to expand state influence and control over the water

sector, alongside other sectors. In this thesis I demonstrate that community water providers in peri-urban areas are often precarious and rarely autonomous, that is they are dependent on the support of state and non-state interventions. State reforms embody an attempt to amalgamate a sector that has never been consolidated and also to support and capacity-build informal providers so that they can effectively provide water.

The state faces an enormous task as it sets about improving access to water and consolidating control in peri-urban areas: the failure of the state in this respect means that informal water providers are widespread in the region. DWCs rarely exist autonomously and often rely on the support of NGOs and more recently state initiatives; some have started organising collectively to overcome problems that exist on a large scale, galvanized by a discourse of *co-gestion*. To date, attempts by DWCs, NGOs and the state to enhance the sustainability of DWCs have focussed on certain elements of sustainability, specifically the institutional sustainability of water provision. By drawing on the experience and development of one DWC I demonstrate that there are different elements that impact on the sustainability of community-led water provision in peri-urban areas, some of which have been more explored than others. Each of these elements presents different challenges and opportunities to the enhancement of sustainable water provision in peri-urban areas.

### **Chapter outlines**

This thesis has nine chapters including this one. Chapter two sets out the theoretical framework in which this research is grounded. I explore the diverse theoretical reflections on the right to water and reflect on some of the empirical work that has been undertaken to date. I discuss contested ideas of community, community water management and the potential of co-production. I then consider conceptualisations of the peri-urban interface and how peri-urban dynamics might affect the sustainability of community-led water provision. Finally, I set out my research design, methodology, and data analysis. I consider some of the ethics of

undertaking a multi-sited ethnography in Bolivia, specifically working in the southern zone of Cochabamba.

Chapter three provides a brief introduction to Bolivia today. I examine the country's current socio-economic situation. I also set out the historical, cultural and political context which has led to circumstances that have created the current reforms around water, and the informal providers that have emerged in peri-urban areas

Chapter four explores the development of the right to water in Bolivia from discourse to policy. It contends that the right to water is a fairly nebulous discourse that acts as a banner under which the sector has been reformed. This is principally a process of (re)nationalisation which in turn has led to the development of a new institutionality to capacity build and regulate informal providers. It has been contested by some because it threatens to undermine or potentially co-opt the informal providers.

Chapter five focuses on the municipality of Cochabamba; it reveals that within and beyond the established formal municipal waterscape there exists a range of smaller informal waterscapes with diverse community water providers. It sets out how diverse community water providers can be. It demonstrates that the idea of community-managed water is ambiguous and often refers to collective action for water provision. Furthermore it reveals how the poorest communities do not instigate community-led water provision and that the relatively affluent suburban potable water committees are the most efficient.

Chapter six focuses down to the level of the peri-urban Zona Sur of Cochabamba, it explores the idea of community management or co-gestion, by the association of DWCs; ASICASUDD-EPSAS (The Association of Communitarian Water Systems and EPSAS of the Zona Sur and the department), as an alternative to the municipal model of water provision. It considers how ASICASUDD-EPSAS has developed

and how it has facilitated the state reforms linked to the right to water, and non-state interventions and policies aimed at DWCs in the Zona Sur.

Chapter seven focuses down to the level of one community, the Villa 15 de Febrero. Ideas of co-gestion are based on the idea that DWCs can continue to provide water in peri-urban areas with some support (financial or provision of water sources) from the state. I explore the historic development of one barrio and its water committee and then explore some of the elements that offer up challenges or opportunities for the sustainability of water provision in the barrio.

Chapter eight concludes the thesis, and considers my findings in light of my research questions. I then consider potential areas for further investigation.

### **Limitations and caveats**

This thesis is a multi-sited ethnography, but much of the detailed ethnographic work was undertaken in peri-urban areas. As previously discussed there is a shortage of ethnographic data on peri-urban zones and this thesis aims to build on the pre-existing peri-urban ethnographic accounts. However, the peri-urban interface is dynamic and subject to rapid social and environmental change. During the time that I was in the field, community leaders in the barrio were replaced and NGOs moved on. Like all ethnographies that have come before mine, the ethnography presented is a snapshot and a moment in time, but as it is located in the peri-urban interface, that snapshot is all the more fleeting.

Furthermore, Villa 15 de Febrero is one barrio and one water system; it is one barrio amongst 100s in the Zona Sur of Cochabamba. This thesis has endeavoured to contextualise the experiences in the barrio by providing further information on diverse types of communal water providers in Cochabamba (see chapter 5) and others that are more akin to the barrio and members of the same association of DWCs

ASICASUDD-EPSAS (The Association of Communitarian Water Systems and EPSAS of the Zona Sur and the department), discussed in chapter 6.

As the world becomes increasingly urban, so the peri-urban interface becomes a more pertinent challenge to planners and researchers. It is often an unknown quantity, this becomes increasingly evident the more research one undertakes in peri-urban areas. There was very limited demographic and cartographic data available on the Zona Sur of Cochabamba and so I have relied on satellite images and maps that I updated from the community and the municipality. Demographic data on the whole region was out-dated, as the last census was undertaken in 2001. As a doctoral researcher, I did not have the scope to undertake extensive regional data collection. Some of the data presented is thus out-dated or projected, often rather conservatively. I have highlighted where data presented might be unreliable and this is discussed in more detail in chapter 6 and 7.

Having introduced the rationale behind my research, and presented a brief overview of my thesis, the following chapter moves on to present the theoretical framework upon which my research draws.

## **Chapter 2: Theoretical framework and methodological approach**

This chapter begins by exploring the theoretical implications of the right to water. It considers some of the challenges in implementing human rights, specifically the human right to water, with reference to the socio-political realities of peri-urban Bolivia and the proliferation of community water providers. It deliberates the role and viability of community water providers in light of reforms to the Bolivian water sector that seek to incorporate informal providers. Peri-urban DWCs are poorly understood, and so this chapter reflects on ideas of the commons and community-led resource management to understand these emerging institutions. It contends that while communities might be framed as sites of resistance to the state, community-based organisations are often the product of state or NGO initiatives, or can be strengthened through co-production initiatives.

In the final section of this chapter, I reflect on conceptualisations of the peri-urban interface and water provision here. I demonstrate that the peri-urban situation is characterised by deep set socio-spatial inequalities, that are the products of on-going socio-political processes. I suggest that these processes can undermine the sustainability of DWCs. I then consider some of the elements that present challenges and opportunities for sustainable DWC-led water provision in the peri-urban interface, specifically relating to institutional sustainability, local environmental integrity, equitable access and local power relations.

### **The limitations of social and economic rights**

When established and functioning, social and economic rights provide justiciable tools that citizens can use to make claims on the state. Rights have historically been the product of struggle, and so negotiating and legislating rights so that they can be enacted coherently is often challenging. Since the 1949 covenant on human rights was agreed by the United Nations there has been an increasing emphasis by states, non state actors and scholars on the role that human rights play in

deliberative democracy and global development (Sen 2009). The mainstreaming of social and economic rights has been advocated by development agencies and NGOs as a recourse by which citizens can make claims on the state, according to accountable, legislative frameworks (SLSA, 2003: 1). This is significant in as much as it works against neoliberal notions that predict the market can provide for the social and economic needs of a population (Mehta 2005), furthermore, it suggests that recognising social and economic rights requires more state intervention than political and civil rights (Salman and McInerney-Lankford 2004). Social and economic rights have been demonstrated to be effective calls to arms for social movements and NGOs representing marginalised groups. More often than not, human rights are truly recognised through struggle (Eckstein 2002), as citizen groups fight to make governments accountable, so that their rights are realised. Implementing political, social and economic rights in the Global South has been demonstrated to be particularly challenging. Uvin (2007) has highlighted how southern states often do not have the capacity to recognise human rights. Further, rights are often gradually implemented over time, this means that governments can be liable to dragging their heels and that policy and legislation is developed piecemeal.

Mehta (2005) sets out how states can be culprits of sins of omission or sins of commission that undermine social and economic rights. Sins of omission happen when states deny social and economic rights, this may happen because the states lack the capacity or will, or because citizens are unaware of their rights or unable to mobilise to claim them. Sins of commission, on the other hand, refer to when states and non-state actors deliberately undermine social and economic rights for broader political or development initiatives. It has thus been argued that human rights are only truly justiciable if the state demonstrates accountability: accountability can be achieved through appropriate legislative frameworks, and if the state has the capacity and political will to recognise the rights (Newell and Wheeler 2006). This thesis builds on the foundations established in the literature relating to social and economic

rights, and acknowledges the limitations that have been briefly discussed here, specifically, the potential for human rights to be undermined within poorer and politically marginalised communities, if the state is weak or unaccountable.

The right to water has been enshrined in the Bolivian constitution, and the Bolivian government under Evo Morales has been a key advocate of reforms to recognise an international human right to water, but this is challenging in Bolivia because numerous formal and informal providers undertake water provision. Agua Sustentable contend that if small-scale rural systems are considered its more likely that there are 28,772 providers (Campanini 2007:1). Rolling out the right in these regions is a delicate and on-going process, and has the potential to succumb to many of the pitfalls that have been linked to human rights-based approaches to development.

### **Theoretical and empirical understandings of the human right to water**

The international campaign to recognise the human right to water has had a particular political trajectory, and its capacity to improve access to water has been contested from a theoretical perspective from the outset. The international campaign for the adoption and recognition of a global human right to water emerged during the 1990s out of the anti-privatisation movement and became part of the Global Water Justice Movement. The Global Water Justice movement has its roots in the anti-dam building movement that targeted the World Bank initiatives that bolstered dam building during the 1980s (D'Souza 2008). The international campaign focus then shifted towards the failures of privatising water services, and was further fuelled by uprisings such as those seen in Cochabamba in 2000, and the solution proposed was an international and legally binding human right to water. In 2002 the International Covenant on Economic, Social and Cultural Rights was amended to include The General Comment No 15 on articles 11 and 12. This stated that the human right to water "...is indispensable for leading a



life in human dignity. It is a prerequisite for the realization of other human rights" (UN 2002) and outlined that everyone had the right to safe, sufficient, acceptable, accessible and affordable water for personal and domestic uses. This embodied a commitment by UN member states to ensure that an undisclosed amount of water for productive uses be provided to each person but this did not mark a radical departure from the status quo; it did not prohibit the participation of other actors, including the private sector in water provision (Bakker 2007). Ultimately it was a small concession to campaigns by the Global Water Justice movement that had been working to highlight water deprivation in developing countries, but it did not halt the on-going privatisation of water services or the General Agreements on Trade (GATs), which led this process (D'Souza, 2008:5). The global campaign intensified and the human right to water was then formally recognised by the UN General Assembly in 2010. The political and legal implications of this... are still being debated, but the role of the state as guarantor of the human right has been established. This is undoubtedly a marked shift away from discourses that promoted the management of water as an economic good and the intensive neoliberalisation of water services (Miroso and Harris 2011).

Global initiatives to recognise the human right to water are premised on achieving social justice, and tend to be in opposition to the commodification of water and private sector participation in the water sector. However, the implications and practicalities of implementing the human right to water, as promoted by the Global Water Justice Movement, have been the subject of much debate by several scholars (Gleick 1999; Salman and McInerney-Lankford 2004; Mehta 2005; Anand 2007; Bakker 2007; Winkler 2008), which I will discuss in this chapter. Bakker (2007, reprinted 2012) clearly sets out how private sector participation is not incompatible with the human rights approaches, and further that the right to water does not prohibit the commodification of water (ibid, 27). Bakker's concern with the focus on rights equating to public provision is that it has further entrenched public-private binaries, and does not recognise the role and capacity of informal providers. This

thesis recognizes this, and further, demonstrates that the right to water has been equated with public provision in Bolivia. This has led to the alienation of the social movement leaders and activists in Bolivia (as discussed in chapters 4 and 6). Bakker's reflections on the limitations of the right to water have been developed and contested (Miroso and Harris 2011; Sultana and Loftus 2011) and have been echoed by Bolivian scholars. In rural and peri-urban areas of Bolivia state-citizen relations are often weak. Historically the state has tended not to provide water services and has developed a reputation for compromising local water sources and systems for the needs of industry and elites (Comisión para la Gestión Integral del Agua en Bolivia 2009). Local groups have interpreted the right to water and communal providers to mean state led provision or at least state intervention in provision. In light of the track record of the state in failing to provide basic services to marginalized communities in Bolivia these groups have raised concerns. Bustamante et al (2012), contend that adopting the human right to water in Bolivia means that the state has been mandated with, "the power to undertake something that historically, it has been unable to do: to define, then grant or deny these rights under their own terms and laws. This may seem logical in other countries, but this is not the case in Bolivia, where the autonomous management of resources has long operated without state intervention" (237). Thus, in countries like Bolivia where autonomous and informal water provision is widespread, state-led reforms to recognize the right to water imply the re-ordering of social and political control over, and the production of, water services previously held by the informal sector. While this is necessary, particularly in peri-urban areas, where local community based water services can be compromised by a host of physical, institutional and economic challenges, it can lead to opposition to this re-ordering process. In this thesis I build on these theoretical reflections, specifically the role and capacity of an institutionally weak state to implement a human right to water and provide basic water provision to poor and marginalized communities where informal providers dominate the sector.

Castro (2006) sets out how the relationships between citizenship rights and water are multiple and change over time. Civil rights to property can simultaneously mediate property rights over water and while political rights linked to citizenship can also shape how water is governed and by whom (6). In countries like Bolivia where indigenous rights have been recognised by the state over time, there is an extra layer of rights to access and protect that can be invoked by certain groups, which can come into conflict with property rights or water governance arrangements protected through citizenship. The development of a universal human right to water is in principle an attempt to extend the social rights provided and protected through welfare systems developed by the state. In practice this means extending the remit of citizenship rights to include welfare mechanisms, but also developing governance structures that can incorporate marginalised sections of society. This in principle involves addressing the power relations that have underpinned unequal access to water and sanitation services by extending the remit and reach of citizenship rights (*ibid*). In settings where water governance is fragmented, and the state and non-state actors control access to water sources and services, the introduction of a universal right to water means that certain civil and indigenous water rights can be contested and change over time. The role of certain non-state, indigenous and collective water providers and their relationship with the state may also change over time, as they resist, negotiate or are incorporated into reforms that seek to universalise access to water.

Reflections to date on the practical difficulties of implementing the right to water have been largely theoretical. This thesis reflects on the realities of implementing state-led reforms in the peri-urban interface, specifically in the Bolivian context, using empirical data. By drawing on Bakker, this thesis does not endeavour to discredit the achievements and potential of the concept of the human right to water. Miroso and Harris (2011) have highlighted the political weight of the human right to water, at a local, national and international level (*ibid*: 7). Further, as previously highlighted, rights are achieved through struggle, and with time members of the global

water justice movement have reflected on some of the changing challenges linked with implementing the human right to water. Barlow (2011), sets out how now that the right to water has been recognized by the UN, the challenges lie in developing coherent legislative frameworks in light of local social and cultural realities (xvii).

A growing body of literature has emerged which explores how the right to water can be translated into coherent, accountable legislative frameworks in different contexts. Discussions have tended to focus on western case studies and EU legislation (Rijswick and Keesen, 2011), or on international legislative frameworks (McCaffrey 1992). There has been less research into the sort of legislation that could be developed in the global south to improve access to water across the board (Anand 2007). Some legislative frameworks governing Latin American have been eroded by private sector participation over time. This is very much the case in Bolivia, where legislation governing the water sector is out-dated and utilities and informal providers operate to all intent and purpose, without a robust legal framework (Campanini 2007). This thesis explores the legislative and policy frameworks that have emerged as a result of reforms around the right to water, and seeks to contribute to the debate around challenges and opportunities linked to this process.

South Africa is often cited as an example of a country in the global south that has developed legislation for the water sector based on the human right to water. It has been subject to several investigations since the country included the right to water as part in their 1996 constitution (SLSA 2003; Mehta 2005; Winkler 2008; Movik 2009). The state adopted a policy of funding the provision of Free Basic Water in 2001 of between 25 and 40 litres of water per person per day. The impact of these reforms have been mixed. While reforms guarantee everyone with water for their basic needs, insufficient funding and institutional capacity have undermined the initiative. Further, the premise that water should only be used for productive uses has meant that the potential of reforms to reduce poverty have been limited (Mehta 2005:8). This example

highlights both the difficulty of developing robust legal frameworks for the effective allocation of water but also the challenges of the practical implementation of these laws.

The South African case study reflects a trend that equates the right to water with a right to a certain amount of water. This has been part of debates relating to the right to water since the 1990s. Gleick (1996) famously made the case that the nations of the world should guarantee that all citizens had access to 50 litres per person per day. Glick contended that 50 litres per day would be the minimum required to meet an individual's basic domestic needs. Over many years discussions have continued amongst NGOs and development agencies about what the 'magic number' should be, but the objective has remained the same. Developing a right to water and sanitation has tended to focus on securing "...access to minimum essential supplies of safe water and basic sanitation as a legal entitlement" (WaterAid, Bread for the World et al. 2012). Reforms around the right to water in Bolivia have not focussed on granting rights to sums of water for reasons that will be discussed in Chapter 4. This thesis draws on the work of Staddon et al (2012), and contends that granting rights to minimum quantities of water may not necessarily lead to water equity (ibid: 70).

### **Reflections on implementing the right to water**

Generally, attempts at legislating for the right to water such as those seen in South Africa have tended to focus on individual rights to water. Legislation has failed to recognise the social, cultural, and economic role that water plays in every day life, and the difficulties in ring-fencing water for 'basic needs'. This is seems is the next big challenge, and this has been recognised by academics and the international water justice movement (Barlow, 2007, reprinted 2012). One of the principle challenges in implementing the human right to water, or any sort of universal water reform, is how it can be implemented in light of varied local political and cultural realities (Cowan, Dembour et al. 2001).

Bolivia demonstrates how the cultural and political realities of a state, can challenge reforms to recognise a universal human right to water (see chapter 4). Universal reforms to recognise the right to water may be less challenging in a country like Uruguay where the state has established legitimacy as the principal water provider, but in countries like Bolivia where informal providers are widespread, and the state does not regulate the whole sector, reforms become more complex. This process of incorporating and developing community providers has gained momentum in several Latin American countries, particularly since the demise of the aggressive privatisation initiatives that were rolled out in various Latin American cities during the 1990s and 2000s. This process has been institutionalised in some settings, as seen with the Mesas Técnicas of Caracas in Venezuela (see Allen 2013), but in other instances incorporating and developing community providers is more challenging. In Bolivia social movements and communal providers have resisted the idea of the right to water because they fear the encroachment of the state. The challenges of implementing the right to water in regions where collective rights exist have been well-documented (Sultana and Loftus 2011) and laws can be created that incorporate, recognise and protect collective rights. This has been the rationale for reforms to the water sector in Bolivia, as demonstrated in chapter 4.

### **The right to water: More than a technocratic discourse?**

Reflecting on debates and reforms to date, it has been contended that the idea of right to water often runs the risk of becoming part of a hollow technocratic discourse (ibid: 8). While the global water justice movement continues with its struggle, the right to water has simultaneously become mainstreamed. NGOs, development agencies and governments have all adopted it, while private water utilities and businesses such as Pepsi-Cola<sup>7</sup> have also made commitments to recognising the right. Arguably, the right to water has thus become something of a ‘universalising

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<sup>7</sup> In 2009, PepsiCo became one of the first companies of our size to publish public guidelines in support of water as a fundamental human right, in the context of the United Nations/World Health Organization guidance

populist discourse' not dissimilar to the discourse that surrounds climate change that Swyngedouw (2011) critiques. Such universalising discourses leave little room for what Ranciere terms 'dissensus' (Ranciere 2010). That is the interruption of political consensus by a usually silent or invisible group; the dissensus is thus a political act. In Cochabamba, the consensus of neoliberal reforms to water services in the form of private concession was broken by the dissensus of the Water War, and the protesters on the streets which chose to defend their water rights. Swyngedouw argues that politics is increasingly reduced to policy making, which is dictated by international frameworks, global NGOs and civil society groups (2011). A universal discourse leaves less room for dissensus and the voices of often-marginalised groups. It obscures the 'difference' and the potential in the diverse institutions that have developed around water.

Reforms around the right to water have not been marred by dissensus, as of yet, but there is by no means consensus yet on how the right to water should be implemented. Indeed, the implementation of a universal right to water will be heavily dependent on local context and established water governance structures. The Bolivian case demonstrates some of the challenges in taking up a universal right at a national and local level as local actors who have endeavoured to develop water governance structures that reflect their needs and struggles are confronted with international frameworks and discourses. In Bolivia activists feel that their principles are different principles to those originally posited by the global water justice movement (Crespo 2010). Indeed, rights are recognized through struggle but these struggles are often local struggles, and my research examines how the struggle for the right to water in Bolivia reflects the social and cultural realities of that country (see chapter 3). This is not based on the opposition to state provision but on incorporating communal provision (this is discussed in more detail in the following section of this chapter). Bakker has suggested something similar, drawing on alter-globalization ideas of the commons, these, in turn "*adopt a twofold tactic: reforming rather than abolishing state governance, while*

*fostering and sharing alternative local models of resource management.*” (2007: 446), thus creating a more integrated relationship between structures of water governance and the hydro-social cycle (ibid:448). This idea pre-empts some of the more recent commentary on the right to water, which considers the emancipatory potential of reforms around the right to water.

While securing access to sufficient water to meet the basic needs of communities is important, several commentators have argued that, ‘the right to water has the potential to mean far more than achieving access to sufficient volumes of safe water’ (Sulatana and Loftus: 2012:8). Linton (2011) argues that the right to water has more potential if we move away from the traditional conceptualisation of the right to water, which is premised on the fixed relation between an individual or a households, a quantity of water and the state. Instead, we need to consider the role that communities play in the production of the hydro-social cycle and why they might defend that right, as observed during the Cochabamba Water War. By participating in the production of water services, society re-asserts its role within the production of water services and water governance structures, and has the potential to lessen Harvey’s accumulation by dispossession. David Harvey famously argued that the enclosure of water resources by the private sector is symptomatic of the capitalist system venturing into new frontiers in the search for profit, terming it *accumulation by dispossession* (2003). Seemingly building on the work of Bakker (2007), Linton argues that involving society in the production of the hydro-social cycle has an emancipatory potential. This thesis builds on these theoretical reflections using empirical data, reflected in the findings in chapters 6 and 7 of this thesis.

The political realities of states like Bolivia where the government’s jurisdiction over the water sector is limited undermines the potential of a human rights approach. D’Souza (2008) argues that because the legal human right to water is the product of western capitalist history and politics, and liberal individual theory it cannot produce a dramatic re-



ordering or transformation of society, or any form of emancipatory politics of the faceless 'global poor' (3). More recently the emancipatory potential of human rights-based approaches to development have been interrogated. Questions have been raised around whether human rights serve to preserve the status quo for marginalised communities; what discourses and strategies should be adopted that endeavour to meet more than the basic needs of marginalised communities, and to what extent human rights can frame more emancipatory strategies? May (2008) has argued that we must consider the political foundation of human rights-based approaches and their potential to achieve equality. He then considers to what extent citizens who are the subject of policies can ever be equal to those who are formulating policy and the broader implications of this approach; "It is no longer in their role as people or as citizens that they participate in the creation or maintenance of equality... as citizens they remain recipients, rather than agents of change" (143). In this thesis, I demonstrate that some Bolivian activists and social movements in Bolivia have contested reforms around the right to water, because reforms are premised on these state-citizen relations that don't function, or that have the potential to be disempowering.

### **Community water management**

The preceding pages have highlighted some of the challenges in implementing the human right to water, particularly in light of local political and cultural realities. It has been argued that marginalised groups might be the subjects of sins of omission (Mehta 2005), as governments *overlook* their rights or communities are unaware of their rights. This thesis demonstrates that in Bolivia (and more broadly in other parts of Latin America) the right to water has been contested and debated by social movements because it has the potential to undermine or affect the autonomy of community-managed water systems and how they function. It is not necessarily that these organisations have been overlooked by the state. Instead they are looking to influence the on-going reforms under the right to water. In the following pages I reflect on some literature that that has helped me frame and understand community water providers in

peri-urban areas. I then reflect on some of the literature on the processes that have forged and entrenched community provision in peri-urban areas, and reflect on how and why DWCs might contest state-led reforms to the water sector.

Drinking water committees are flourishing in Bolivia and more broadly across Latin America, often as a result of the absence of water utilities, and in some instances, in the wake of the prohibition of private sector participation in water provision (PAPC 2012). They are still poorly understood institutions. Communal irrigation systems across the Andes have been the subject of extensive research exploring the local role and relationship with the state (Beccar, Boelens et al. 2002; Cremers, Ooijevaar et al. 2005; Roth, Boelens et al. 2005; Boelens 2008; Perreault 2008). However, the experiences of rural irrigation systems are far removed from emerging potable water providers in peri-urban areas. Rural water providers tend to have abundant, enclosed water sources and entrenched *usos y costumbres* or uses and customs around water that have evolved over decades (Bustamante and Gutierrez 1999). Perreault (2008) frames uses and customs as “the mutually agreed-on norms of water rights and management practices that govern communal irrigation systems” (ibid: 835). Perreault sets out the material and symbolic significance of *usos y costumbres* for Bolivia’s irrigators, who have successfully mobilized the discourse *usos y costumbres*. In this thesis I will consider how and to what extent the idea of uses and customs has been mobilized in the peri-urban interface.

Recently, communal water providers have been mobilising and the discourses of community-led water provision and *usos y costumbres* have been promoted locally and by regional Latin American networks including Red Vida, PAPC and CLOCSAS. Despite this, there has been limited empirical research into the range of diverse communal drinking water systems in peri-urban settings and their relationship with the state.

### **The commons and community water management**

In Bolivia, communal water providers and community water management is often advocated using a discourse that is loosely and often romantically based on the commons and ideas of the common good (*el bien comun*). Reflecting on debates relating to reforms around the right to water in Bolivia, the CGIB (Integrated Commission for Water in Bolivia)<sup>8</sup> states,

Partly in reaction to the idea of water as a human right, there is the proposal to treat the water as part of what is called "commons" in the sense of resources constituted, managed and used through community control. That is in the broad sense, not just by indigenous, peasant or native communities also in urban and peri-urban areas. This in turn, refers to a sense of commonality and community that goes beyond the national model. (CGIAB 2010)

The idea of the commons was used interchangeable with '*el bien comun*' was alluded to in meetings with water activists and DWC leaders while I was in the field, as an alternative model to universal state-led water provision. But the idea has not been clearly defined in relation to communal potable water providers in the Bolivian context.

Conceptualisations of the commons are complex, and often poorly understood (Berge and van Laerhoven 2011), and hence the classic ideal of the commons is often conflated with community management, as seems to be the case in Bolivia. But this is hardly surprising; the commons is notoriously difficult to apply to local and community water systems (Mehta 2006: 4). Classic ideals of the commons were established by Hardin who famously argued in *The Tragedy of the Commons*, (Hardin 1968) that when a group has access to a common property resource, individuals will act on an individual basis, and exhaust the resource instead of working together to ensure its sustainability for the whole group. Hardin's theory led to a stream of work counter-arguing that group members cooperated to regulate resource use through common property regimes (CPRs). These are often theorised around systems based on clearly delineated resources, which are excludable and

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<sup>8</sup> CGIAB brings together NGOs and research organisations with an interest in water in Bolivia to undertake research and host events and forum on water in Bolivia

governed by sets of norms and rules negotiated by the group (Ostrom 1990). Based on a theory of rational economic choice, it is more beneficial in the long-term for groups to co-operate over resource management and use. The idea of incorporating commons and community systems of management has become popular, particularly in Andean countries where the participation of the private sector has been prohibited or where community providers are prolific. This thesis demonstrates that classic ideas of the commons do not apply to the communal water providers that are emerging in peri-urban regions (see chapters 6 and 7). Water resources are difficult to delineate, and access to water services may be governed loosely by norms and rules, but water is also sold in most instances.

The idea of community management in Bolivia often romanticises the capacity of the community to manage resources. Literature relating to community- led resource management (CBNRM 2012) has warned against this (Agrawal 1999; Blackie 2006). Theories of CBNRM, which emerged out of the commons literature during the 1990s, advocated the role of the community in natural resource management in rural settings. The literature draws on ideas of new institutional economics and argued that locally managed resource systems and service provision would match local needs, that they could be empowering for local communities, and provided an alternative to traditional public or private service providers (ibid). CBNRM was a concept that guided development interventions in rural areas, and so the approach was top down. It is also not an approach that was rolled out in informal peri-urban communities, where resources were scarce and contaminated, and populations are transient and unstable. However, some of the critiques that emerged in relation to the capacity of the community to manage natural resources are noteworthy for this thesis. CBNRM allowed little space to accommodate the heterogeneity between and within communities, and tended to romanticise the capacity of the community, not dissimilarly to the ideas of 'el bien comun'. Further, and as highlighted in chapter 7 of my thesis, it is often difficult to guarantee or enforce the participation of community

members in the management of natural resources. The idea of CBNRM, like most models of community-led resource management is dependent on the willingness of the community. This is particularly pertinent in peri-urban settings, where populations have been demonstrated to be dynamic and, as I demonstrate in this thesis, urban aspirations develop with time. Beyond the traditional CBNRM literature there are extensive examples that reveal how community water provision does not necessarily lead to equal access to water, and that social dynamics dictate access to water (Cleaver, Cooke et al. 2001; Mosse and Sivan 2003).

More recently the idea of the commons has been re-invoked and adapted to understand emerging communal systems and structures in peri-urban areas. These ideas have been useful to inform my understanding of emerging collective organisation for basic service provision in peri-urban settings. Bakker and The Forum on Privatisation and the Public Domain developed a categorization of eight types of commons. This spectrum of commons includes a whole range of different communal organisation that display different characteristics traditionally associated with the commons. The category *Residual Commons* is a useful concept to understand communal peri-urban water providers. *Residual Commons* are categorised as,

Poor communities [that] resort to commons-type arrangements for basic services (often in collaboration with NGOs because nothing else is available). (Bakker, 2010:181)

These organisations have emerged in the absence of the state, initially as coping mechanisms, as suggested by Bakker. My thesis suggests that the commons-type arrangements that have emerged in Bolivia also serve a social function. DWCs leaders have used their organisations for political leverage and influence (see chapter 6). This is not dissimilar to Harvey's commentary that revives the idea of the commons as he discusses the organisations that emerge in informal urban and peri-urban settings when the state fails marginalised communities. In his rather polemic work *Rebel Cities* he argues that in settings such as neoliberal Bolivia, where the state did not provide public goods and

services, communities begin to work together collectively to provide local solutions *for the provision of public goods* (Harvey 2012), and these can be loosely associated with ideals of the commons. Harvey frames the rekindling of the commons as being a feature of an anti-capitalist struggle. He draws on literature relating to the neighbourhood associations of El Alto – La Paz, and their role in the anti-capitalist rebellion of 2003<sup>9</sup>. DWCs have emerged under similar conditions and continue to persist under the socialist government of Evo Morales, and thus it is difficult to categorise these informal commons-based organisations as being oppositional products of neoliberalisation. These are organisations that have used their control over water resources for broader political endeavours. DWCs have thus emerged to loosely resemble residual commons, but they have social and political potential beyond their (often compromised) capacity to provide water in the peri-urban interface.

### **The autonomous community?**

Ideas of the residual commons present an autonomous ideal of the community. In practice there are various processes and actors that have forged and galvanized drinking water committees in peri-urban areas over time. Some of these processes can help to understand why the idea of communal water management is used to contest reforms around the right to water. Indeed, several Latin American academics have cast community-based water providers broadly as autonomous sites of resistance not only against the neoliberal state, but also the socialist state of Evo Morales (Crespo 2011), even framing them as anti-state forces (Zibechi 2007). This discourse is heavily politicised, and masks the diverse processes and partnerships with the state and NGOs that have forged community-managed water services in peri-urban zones.

Some community-led water systems are the products of decentralising policies during the 1990s that worked to develop the role of the

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<sup>9</sup> See Lazar, 2010 for further discussion of this process and rebellion

community in basic service provision in Bolivia, and other countries in the global south. Harvey (2012) has critiqued the decentralisation, arguing that 'decentralisation and autonomy are primary vehicles for producing greater inequality through neoliberalisation', and that the community systems that were forged are not built on the same premise as the commons-based community organisations of El Alto. In other instances, the advance of church and NGO-led development during the 1990s and 2000s formed part of the neoliberal agenda worked to nurture community level institutions in rural and peri-urban areas (Bebbington, 2004). These are not grass-roots initiatives; instead they reflect top down initiatives to encourage community-led development or basic service provision. Often community- driven projects for water and sanitation in peri-urban and rural areas are more complex and are driven by community or NGO initiatives, and may even eventually receive funding from the state (see McGranahan and Satterthwaite 2006). It thus appears that there is a wide spectrum of community providers that have emerged as a result of different state and non-state processes and initiatives over time. To frame peri-urban DWCs as products of the failure of neoliberalism or as autonomous anti-state forces obscures the diverse institutions and processes that have forged and entrenched the community's role in water governance over time. In principle, reforms to the Bolivian water sector since 2006 set out to recognise and incorporate community water provision. This thesis will explore to what extent these reforms really enhance and develop community-led water provision.

### **The community as a site of resistance**

The purpose and impact of state interventions with community water providers in peri-urban Bolivia has been controversial. Indeed, universal water reforms that threaten local water systems have historically been contested in Bolivia, most famously during the Water War (Olivera 2004). In light of these rebellions, it would now be politically unviable to adopt reforms that openly appropriated communal providers. Instead reforms to the Bolivian water sector now appear to be willing to engage with and develop the capacity of community water providers across the board.

Nonetheless, for some, attempts by the state to nurture the community as a provider, through decentralising policies or public-public partnerships for water provision in peri-urban and rural areas have been greeted with mistrust, and judged to be symptomatic of the encroachment of the state (Crespo 2010, Crespo 2012, Bustamante et al 2012).

In countries like Bolivia, where the state is weak and community managed water system, in their diversity and complexity implicitly question established public/private dichotomies. It is useful to consider the function of the right to water as part of the politics of the Bolivian state. In this regard, I argue that the principle of the human right to water serves to legitimize, in a new context, the long history of the destruction of the commons of water by the Bolivian state. (Crespo 2010: 2, author's translation)

The right to water has thus been framed as part of a broader struggle for power as the state seeks to exert influence and control over water providers that have historically been beyond the remit of the state. Reforms that seek to incorporate community water provision within water provision and governance are thus framed as part of a political endeavour to co-opt non-state providers. This reflects the long history of water governance in Latin America more generally, which has over time been critiqued as exclusionary, and part of a socio-political process whereby certain actors exercise power over others (Castro 2008: 75). This has led to conflict between the state and different groups, particularly under neoliberalism (Castro 2003). However, there are evidently concerns that reforms linked to the right to water in Bolivia have the potential to continue processes that have historically been observed under previous governments.

Others have argued that encouraging community participation in water provision is a method by which the state can shun its responsibilities to its citizens. Swyngedouw has argued fervently that government approaches that advocate community-led water provision can serve to re-enforce



socio-spatial inequalities<sup>10</sup>, creating a two-tiered system where the state or a private sector provides water in the centre of the city, but which lets the state off the hook, particularly in poor peri-urban and urban communities. Crespo and Laurie (2006) have further critiqued pro-poor approaches led by the Bolivian state that have developed the role of the community in water provision and small-scale technology, but without sufficient resources. In practice this has worked to re-enforce regional inequalities and has led to calls from social movements for increased autonomy for pre-existing community water providers. This highlights the difference between state-led community development initiatives to develop water systems, and the rights of pre-existing community water systems and the uses and customs that have developed around these systems.

### **Community- state relations**

Across the Andes, states including Bolivia have adopted a policy of formalising communal irrigation systems through licensing and registering water rights, thus legitimising informal providers. This process has only recently started with potable water providers in Bolivia. Some have argued that reforms to incorporate the commons and protect the water rights of rural communal irrigation systems in Bolivia is tantamount to the creation of private property rights over water (Bustamante 2007). In this sense, therefore, they are no different to the private concessions granted over large areas in Bolivia in the late 1990s and early 2000s. In practice Bustamante has demonstrated that granting legal water rights to communities has increased incidences of conflict between communities that share the watershed and further, between domestic, agricultural and industrial sectors<sup>11</sup>. There has been limited research into the impact of

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<sup>10</sup> Erik Swyngedouw H2O does not exist? Retooling the Washington Consensus. Presentation at STEPS Water and Sanitation Symposium: Some for All? IDS, March 23 2011

<sup>11</sup> Rocio Bustamante Presentation Normativas Hídricas y Autonomías, Cochabamba, April 15<sup>th</sup> 2010

formalising the rights of potable water providers in peri-urban areas, and the broader impact this might have on relationships between communal water providers, particularly when water resources are scarce.

### **The potential of co-production**

Licences and registries are one method by which the state has started to engage with peri-urban DWCs to improve access to water. The state has also engaged with DWCs to co-produce water services, this has also been done with the support of development agencies or NGOs. Co-production has been defined as when “*citizens can play an active role in producing public goods and services of consequence to them*” (Ostrom 1996: 1073). Theories of co-production suggest that state – citizen partnerships can be enhanced through cooperation for the development of service provision, which in turn can be empowering for the citizen groups involved by enhancing their political capabilities (Mitlin 2008). This is particularly pertinent in peri-urban regions where communities have historically been marginalised by the state.

There is extensive literature that demonstrates how communal participation and management of water resources can help communities tackle wider social inequalities (Swngedouw and Heynen 2004; Roth et al 2005). However, there is a fine-line between community-led provision that is empowering, and that which serves to re-enforce socio-spatial inequalities, which in turn further marginalises already marginalised communities. Satterthwaite et al (2005) have argued that for co-production strategies to be effective, they cannot fall into the trap of relationships between citizens and the state based on patronage. Partnerships for co-production in peri-urban areas offer an alternative to the established public-private dichotomy that dominated the water sector during the 1990s and 2000s. This thesis considers how DWCs have lobbied to co-manage and co-produce water services in the Zona Sur through an association of DWCs, and whether partnerships for the co-production of water services could help improve access to water in peri-

urban areas and ultimately contribute to the recognition of the right to water.

### **Peri-urban processes and sustainable water provision**

This thesis also examines some of the implications that the promotion of the right to water by the Bolivian government has had on the sustainability of water provision in peri-urban areas. In the following section I reflect on conceptualisations of peri-urbanisation and sustainable water provision. I then argue that there are important aspects of sustainability that have been considered but which are often underexplored in peri-urban areas. These present specific challenges and opportunities to enhance sustainable water provision in peri-urban zones. My focus on the sustainability of water provision in peri-urban areas emerges over the course of my thesis, and is developed empirically in chapter 7 and 8. It further, serves to bind together several strands of research.

To date the international campaign to recognise the right to water have not directly addressed issues of sustainability goals. The primary focus of the campaign has been on enhancing social justice, specifically to improve access to water. Some commentators have highlighted how the right to water might even have negative implications for the environment, and how anthropocentric human rights might undermine the 'rights of nature' (Bustamante et al 2012). Drawing on the work of the STEPS-centre, this research recognises that enhancing environmental integrity *and* social justice are the core elements for building sustainability (Leach et al 2010). This understanding forms the foundation for this thesis' exploration of sustainable water provision in peri-urban areas. Enhancing local environmental integrity and social justice is dependent on social processes and power relations, which in the case of this thesis are the product of distinctive peri-urban dynamics. These processes dictate what is important to sustain and for whom.

There are specific social processes and power relations that define peri-urban areas and that have shaped how people access water in the region. The historical and political context that recognised the health benefits of providing water and sanitation in the North, embodied in the 'bacteriological city' (Gandy 2006). Political and technical reforms to deliver universal water and sanitation provision was developed in the North during the 19<sup>th</sup> century in response to cholera outbreaks and illnesses related to poor sanitation that affected the rich and poor equally. This model has not been replicated in the south provision has thus been uneven as the state has tended to develop water and sanitation services for the wealthy and middle-classes, these in turn reproduce socio-spatial inequalities (Swyngedouw 2005); these are particularly pronounced between urban and peri-urban areas.

The process of urban expansion in the global south has meant the extension of the urban into rural areas. On the surface the peri-urban interface is characterised by its heterogeneity; it has urban and rural land uses, employment opportunities and housing types (McGregor, Simon et al. 2006). It is also characterised by complex informal and formal processes. The peri-urban interface is a dynamic, transitional space (Douglas 2006) that facilitates flows of people and resources between urban and rural zones (Tacoli 2006), populations are changeable and transitory. Conceptually it is the product of political process, specifically, globalisation and economic liberalisation that drives urbanisation (Roy 2002). It is a service zone that supports burgeoning urban centres; it provides an informal and unregulated sink and a source that has been intrinsic to urban development during recent decades (Tacoli, 2006). The peri-urban interface is often characterised by environmental degradation, poverty and social injustices, many of which are pushed to the peripheries by the city centre. Peri-urban settlements often emerge as informal, illegal communities, to begin with at least; and are thus often not formally recognised as citizens (Allen et al 2006). In practice this means populations don't have access to the same rights as those living in the centre of the city (Swyngedouw 2005; Harvey 2006).

Unregulated and unplanned peri-urbanisation, and the absence of state provision leads to the manifestation of *urbanisation without infrastructure* in the peri-urban interface<sup>12</sup>. Informal water provision in the peri-urban interface has thus been characterised as overlapping and archipelago-like (Bakker 2003 ) or fragmented, ad-hoc and disjointed (McGregor, Simon et al. 2006). Communal water providers operate individually or in cooperation with others, they can work alongside private vendors and often share water sources such as aquifers. This thesis endeavours to build on some of the literature relating to communal water providers in the peri-urban interface, with in-depth ethnographic research on the development, role and capacity of informal water systems in peri-urban communities. Peri-urban dynamics are distinctive, and they affect the institutional sustainability of local water providers. Institutional sustainability is one of the elements of sustainable water provision that I explore in chapter 7.

Until recently, peri-urban communities in Bolivia have existed with little contact with the state; indeed it was common for peri-urban regions to be marginalised by the state and criminalised as a result of their illegality (Goldstein 2004). More recently, as the outlook of governments has changed, it has been contended that the peri-urban interface is a somewhat fuzzy (Arabindoo 2005) and intangible zone for planners. As there is limited demographic and cartographic data available, and the informal providers are often poorly understood by the state, this makes it particularly difficult to tackle water provision. Informal water providers have continued to develop over time with the support of the community, local NGO initiatives or entrepreneuring individuals. This has also been the case in peri-urban Cochabamba. Bakker and Kooy (2008) have drawn on the Splintering Urbanism thesis (Graham and Marvin, 2001) to argue that water provision is not splintered in the global south simply

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<sup>12</sup> Adriana Allen, Lecture Urbanisation without Infrastructures in African Cities: Who Fills in the Gap? SOAS Feb 23 2012

because of the privatisation of water provision. Instead they demonstrate that water provision has always been splintered because there has never been a universal water provider for urban regions. Indeed, community-led providers often pre-date privatisation (as is the case in peri-urban Cochabamba), and have, in some cases, proven to be effective in meeting localised needs (Allen et al, 2006), but their capacity and role in the community has not been fully explored. The above processes can clearly be identified in peri-urban Cochabamba.

The idea of sustainability is often absent from debates about the peri-urban interface. Marshal et al (ibid) have challenged the widespread idea that peri-urban regions are “*inherently unsustainable*” (ibid: 2), and propose a sustainability agenda for the peri-urban interface that attempts to marry the brown agenda of the urbanists and development planners and green agenda of the environmentalists. This builds on STEPS centre ideas of sustainability that promote sustaining systems with enhanced environmental integrity and increased social justice (ibid).

There is a long literature on sustainability and sustainable development since Bruntland (1987) and before. The debate on sustainability has been chequered (see Leach et al, 2010, Adams 2001), and this thesis has limited scope does to discuss the history of the debate in any length. Scoones, Leach et al (2007), posit that sustainability must be recognised as a boundary term. Current discourses around sustainability have become normative; while sustainability is associated with certain social, environmental and economic principles they are often poorly defined and are adapted to context (ibid: 34). In taking this approach, this thesis acknowledges the complexity of sustainability which can be challenging but also useful (Adams 2001). Recognizing the contested meanings of sustainability confirms its politicised nature; different actors will frame sustainability and sustainable development accordingly (Scoones, Leach et al. 2007).

Mehta et al (2007), recognise that the sustainability of water provision generally relates to the durability of the water system over time, but also contend that normative ideals of Sustainability exist, and these often relate to developing and meeting the environmental and social goals of particular groups (Leach et al 2010:21). General definitions relating to sustainable water provision have remained broad, but several NGOs and development agencies have developed frameworks that reflect their experiences in the field and to structure on-going interventions (UNICEF and WHO 2011; WaterAid 2011). Water Aid define sustainable water provision as follows,

...Whether or not WASH services and good hygiene practices continue to work and deliver benefits over time. No time limit is set on those continued services, behaviour changes and outcomes. In other words, sustainability is about lasting benefits achieved through the continued enjoyment of water supply and sanitation services and hygiene practices. (WaterAid 2011)

This broad statement on sustainability does not outline what lasting benefits should be achieved for whom, but it is often defined by more definite criteria such as those outlined in the following pages, these are often used to develop frameworks for sustainable water provision.

NGOs and development agencies working on water provision have developed frameworks for exploring the sustainability of water provision at the level of the community. The focus of these frameworks has tended to be on rural community water systems that are developed with outside assistance. These are not necessarily programs that work to support pre-existing community systems; instead they have developed water systems from scratch. Further these frameworks have been developed in relation to systems that have been developed in rural settings, and not the peri-urban interface. They often consider institutional sustainability, environmental sustainability, financial sustainability, and social sustainability which is often loosely defined (Unicef and WHO 2011, WaterAid 2011). As highlighted in the preceding pages, the peri-urban interface throws up specific challenges and opportunities for sustainability that should be recognised. This thesis will explore four

particular issues that affect the institutional sustainability of DWC-driven water provision in peri-urban areas. Building on established water provision sustainability frameworks, and because of their pertinence in peri-urban zones, I consider challenges and opportunities linked to institutional sustainability and enhancing local environmental integrity. I also explore challenges and opportunities linked to equitable access to water and the shaping impact of local power relations.

### **Institutional sustainability**

It has been contended that community led water provision is never truly autonomous, and that communities are prone to losing interest in managing water systems (Shaw for WaterAid, 2012). The communities, in turn, become dependent on institutional support from outside actors to develop and maintain the management and infrastructure of the community-led system (Carter 2009; Shaw for Water Aid 2012). In this thesis I argue that some of the specific peri-urban social dynamics can undermine *or present opportunities* to build the institutional sustainability of water providers in peri-urban zones. The impact of these dynamics on water provision in peri-urban zones is often underexplored. Furthermore, the power relations and political leverage of maintaining community control of water systems in urban settings is often overlooked. This thesis argues that these power relations have the potential to affect the institutional sustainability of water providers,

### **Enhancing environmental integrity**

This thesis explores the potential that emerging partnerships between DWCs and the state have to build local environmental integrity in the peri urban, although the focus is specifically on water sources. Water Aid (2011) suggests that the environmental sustainability of water provision is dependent on an integrated focus that promotes water systems that protect both the quality and quantity of a water sources, and also addresses sanitation. This contention reflects the experiences that Water Aid has had working with rural water providers. In peri-urban areas where water sources such as aquifers are shared with other



communities, industry and/or farmers (see Allen et al 2006), protecting the quality and quantity of the source is challenging. In broader literature relating to environmental sustainability in peri-urban areas there has been a tendency to focus on the spread of illegal settlement and their inhabitants as principle causes of environmental degradation here (Aguilar 2008). This tendency to blame the poor for environmental degradation does not account for the physical and socio-economic linkages between peri-urban areas and the urban centre, and sources of contamination and degradation therein. Marshall et al (2010) argue that *“informal coping strategies... may result in a worsening situation of marginalisation and environmental degradation or may be potential new pathways to Sustainability”* (50). This thesis explores the socio-economic relationship between the zona-sur and the centre and the affect that has on sources of and types of environmental degradation in peri-urban areas.

### **Equitable provision**

Building equity as an element of sustainable water provision has been central to the work of several NGOs working to improve water provision (Unicef and WHO 2010). This idea has not been extensively developed in relation to community water providers in peri-urban areas. Instead the focus is often on ensuring that there is equitable access within the community, and that the most marginalised groups have access to water (Water Aid 2011). The capacity of drinking water providers to provide equitably is explored in this thesis, but it also goes a little further. It argues that community-led water provision can provide marginalised peri-urban communities with the political leverage to challenge broader inequities that exist between peri-urban areas and the city centre.

### **Power relations**

The power relations that define how people access water are often missing from debates relating to sustainable water provision. Who has power over and control of water resources and services and how to they maintain or attain it, and how do the often asymmetric power relations between diverse state and non-state actors affect water provision? In this thesis I highlight how communities have struggled to retain control and influence over water services and provision over time. An estimated 67%<sup>13</sup> of water provision comes from informal and community-level providers in Bolivia, and on-going power struggles between communities and the state continue to shape structures of water governance. This thesis considers how power relations linked to the juridical plurality that characterises the peri-urban interface and much of Bolivia affect water provision in the peri-urban. There is a wide range of indigenous, union and collective organisations that operate at the level of the community to manage many aspects of everyday life alongside the state. They operate according to diverse rules and laws and range from indigenous councils that control all aspects of community life, to newly emerging Drinking Water Committees that manage water provision in the peri-urban. The continued presence of community-led institutions in any form is a result of the weakness of the state, *but also* a consequence of policies that have deliberately incorporated indigenous and collective institutions. Both state and non-state institutions have borrowed institutional norms from each other over time, and have thus come to resemble one another. This has led to a sort of ‘interlegality’, that is when the state borrows from the juridical elements of non-state actors, and vice versa (Assies, Haar et al. 2000). These processes embody the interplay and impact of these dynamic power relations between state and non-state actors.

This chapter has set out the theoretical framework in which my research is located. I have engaged with discussions relating to the conceptualisation and implementation of the right to water, the

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<sup>13</sup> Oscar Olivera, Red Vida Conference Mexico City, October 15th 2012

development and potential of community-led water providers; conceptualisations of the peri-urban interface and peri-urban water provision, and ideas of sustainable water provision in the peri-urban. I build on these foundations throughout my thesis and as I address my research questions, however, I begin by setting out my methodological approach.

## Chapter 2.2: Research Methods

In this chapter I set out my methodological approach. In early October 2008, I travelled to Bolivia to begin my fieldwork. It takes at least 35 hours to reach Cochabamba from London if you are on a budget. My journey zigzagged from Heathrow to Madrid, then from Madrid to Miami. Then, after a nine-hour wait in Miami airport, I caught the overnight flight to the capitol La Paz. Six hours later, just as the sun started to rise in Bolivia, the aeroplane began *ascending* into the world's highest airport, El Alto-La Paz. El Alto is on the edge of the *Altiplano*, the plateau to the west of the Bolivian Andes, and the enormous Andean Peaks of Chacaltaya and Huayna Potosi. As I stepped off the aeroplane, the sight of the surrounding snow-capped mountains, along with the altitude of over 4000 meters, took my breath away. I shuffled through immigration, haggled for an open-ended visa, collected my bags and took a taxi down town to the bus station. Despite feeling tired and breathless, I found the view on descending into this city nestled in the Andes awesome (see figure 1).



Figure 1 La Paz from El Alto

Forty-five minutes later, the taxi dropped me at the bus station. As I struggled to buy a bus ticket I realised that my Spanish would need some

tweaking, and that I would have to learn some Quechua<sup>14</sup> and Aymara<sup>15</sup>. I missed one bus, because in a typically British fashion, I observed what I thought was a queue. In fact, I quickly learnt that in Bolivia bus seats go to those who push their way on board first. I finally got on the bus and found a seat next to a woman who offered me a plastic cup of Coca-Cola and some coca leaves for the altitude. This experience set the chaotic and contradictory tone that would characterise my fieldwork.

By the evening I had arrived in Cochabamba, the city located in the eastern slopes of the Andes that would become my fieldwork base. I decided to take a room with a family to begin with as I settled into the city and ended up renting a room from the Pacheco family in a suburb a few kilometres outside the centre of the city. The Pacheco household had a modest but sprawling house that accommodated members of their close and extended family and the occasional lodger. They became good friends and a surrogate family who really supported me as I set about establishing myself in Cochabamba and planning the task ahead of me.

After spending a few days in the city I began revising my research schedule and decided to divide my research into three phases, in order to make the somewhat daunting task ahead seem more manageable. Each phase would inform the next with some obvious and intentional overlap. The first phase involved extending my theoretical framework to include some of the extensive literature relating to my thesis that is only available in Bolivia; I simultaneously began mapping actors and institutions relating to my thesis. The second phase focussed on interviewing the identified representatives from the state, public utilities, NGOs and social movements that were relevant to my research and to map their role, relationships and influence in the water sector; I also began observing meetings and workshops for communal water providers and activists. During the third phase I undertook a peri-urban ethnography with a

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<sup>14</sup> Indigenous language spoken in Cochabamba and further south

<sup>15</sup> Indigenous language spoken in La Paz and the highlands

community and its drinking water committee on the peri-urban *Zona Sur* of Cochabamba.

I adopted a predominantly qualitative approach to fieldwork. Qualitative methods “allow us to know people personally and to see them as they are developing their definitions of the world” (Taylor and Bogdan 1985:8). I tended to rely on ethnographic methods, although I recognise the limitations of the ethnographic approach, specifically that “Power and history work through ethnographies” (Clifford and Marcus 1986:7). I recognise that I have interviewed selected civil servants, gathered the life stories and observed the day-to-day activities of some members of one community. I have then sifted through the data collected and presented some of these stories to construct this thesis. In that sense, I acknowledge that “ethnographic truths are thus inherently partial, committed and incomplete” (ibid) and thus there are histories and views that are not revealed by this thesis. Nonetheless, I chose to undertake an ethnographic approach in an attempt to provide a rarely undertaken, in-depth account of how people manage and access water in peri-urban areas and why.

There are many different processes that have led to the unequal water access that characterises Cochabamba today. There are various reasons why the peri-urban poor receive dirty water from informal providers and people living in the urban centre receive cheap, clean water from the state, but you will not find all of these reasons in one place. I therefore undertook a multi-sited ethnography (Marcus 1995) which gave me the scope to conduct research on different scales and in different settings, and to interview civil servants, activists, NGO workers, community leaders and peri-urban residents. In the following pages I set out the three phases of my fieldwork in more detail, and the diverse processes that shaped my methodological approach over time.

## **Extended literature review, institutional and actor mapping**

**October 2009 – January 2010**

I began my fieldwork with some classes to improve my Spanish language skills and to learn a little Quechua. I simultaneously began developing my literature review to make it more inclusive of academic and grey literature from Bolivia that is unavailable or difficult to access from abroad. Libraries such as CEDIB (The Centre for Information and Documentation in Bolivia) had extensive newspaper archives, old short run books and social research and commentary on Bolivia that has been undertaken in-house. Meanwhile the collections maintained by NGOs, such as *Agua Sustentable*, and public institutions, such as the Misicuni dam, were also invaluable. Furthermore, Bolivian publishers such as *Plural*, published short runs of Bolivian books that are only available in Bolivia. This initial period was enriched by discussions with Bolivian academics, researchers and NGO workers who became informal advisors throughout my fieldwork and ultimately partners in papers, panels and projects.

During this first phase I set out to develop a general understanding of the factors that shape water provision in the municipality of Cochabamba. While my focus was on peri-urban areas I felt it was important to understand the development of the various communal providers that have evolved in the municipality and how they provide water. While undertaking my fieldwork I deliberately lived in three different barrios in the municipality, two of which were supplied by community water providers (albeit very distinctive community providers), while the third barrio was in the centre and received water from the public municipal utility SEMAPA. During the initial period of fieldwork I was living with the Pacheco family in an ex-mining barrio where water was supplied by an efficient DWC (Drinking Water Committee) that was incorporated into the local Residents' Association. This barrio was home to teachers, shop owners and professional classes. These people were not poor but neither were they wealthy like those living in the north and the centre of the city. Living in this barrio provided me with the opportunity to understand how an urban community can manage water effectively. It also gave me the

opportunity to hone the ethnographic method that I would use more extensively in the *Zona Sur*, namely participant observation in community and water meetings, conversations and semi-structured interviews with barrio elders, community leaders and *vecinos* (barrio residents) and attendance at municipal meetings for communal water providers. Through these methods and by living in the barrio, I was able to develop an understanding of how a middle class suburban communal water provider operated and to what extent it could meet the water needs of its *vecinos*. This barrio was not, however, the focus of my investigation, but it provided a case study to contextualize the experiences of poorer barrios in peri-urban areas: my findings are documented in chapter 5.

I undertook my first of many interviews in this barrio; the very first interview was behind a shop counter with the then president of the Resident's Association. Interviews take different forms according to the data one is looking to gather, the informant and the setting, (Rubin and Rubin 2011). In this thesis there are ethnographic interviews, oral histories, life histories, academic interviews and investigative interviews that have been undertaken in front rooms and backyards, on porches, at universities, on marches, at the back of meetings, in the backs of cars and in the various cafés in the centre of Cochabamba. Each interview requires a different approach, a different agenda and often a different tact and tone.

In order to understand the development of the 'human right to water' in Bolivia, I wanted to map out the diverse actors have influence, or seek to have interest in the water sector. I came to focus on the role of four different types of actor: state actors, NGOs, social organization and community leaders and community members. I did this by speaking to local water activists and academics and by observing and participating in public meetings and protests about the state of water provision in the region. I planned to engage with these actors during the second and third phases of my fieldwork. The second part of my research would focus on interviewing state actors, NGOs and social organisations, while the third



phase focussed on engaging with community leaders and community members in peri-urban areas. In practice there was some overlap between these phases.

### **Understanding state and non-state actors in the water sector**

#### **February – April 2009**

In order to understand the development of reforms to the water sector, I began the process of reviewing documents and interviewing state actors, namely members of the Ministry for the Environment and Water (MMAYA) and affiliated governmental institutions, and NGOs that focus on the water sector. Most of these semi-structured interviews were conducted in Cochabamba or La Paz. La Paz is the administrative capital of Bolivia and where most governmental departments and many NGO offices are located. It was always difficult to predict whether or not I was going to be able to secure an interview with a civil servant. First, it was difficult to arrange formal meetings in advance and I would often be told to simply visit the Ministry for Water and the Environment (MMAYA) when I was in town, or call a day in advance of our meeting to firm up a time. There is no widespread culture of email use amongst civil servants in particular. Some had personal Hotmail or Gmail accounts, but tended not to use email frequently and responded better to phone calls or face-to-face meetings. Having said that, civil servants in central government would rarely commit to meet weeks in advance. This would often lead to last minute cancellations or no-shows, other times I could turn up for a 30 minute appointment and be asked to spend the day at the ministry or department and introduced to a whole host of staff who 'wanted' to be interviewed. Conversely public institutions such as the public water utility SEMAPA who have had much bad press over the years are unwilling to be 'cold-called' for an interview. It took me over a year to secure an informal interview with the director of SEMAPA for the southern zone, which only came about through a recommendation from a friend.

I was always aware of my positionality as a young, single, foreign woman; this was equally as important when interviewing civil servants as in the

barrios of the southern zone. The impact of the gender and age of researchers on fieldwork, specifically ethnographic research has been the subject of extensive anthropological and feminist commentary (Whitehead and Conaway 1986; Bell 1993). Male civil servants were often keen to meet at the end of the day at a restaurant, as opposed to in their offices, or would suggest a meeting at the cinema, something that none of the male researchers I came across in Bolivia had experienced. While I am sure being a foreign woman gave me more access to male civil servant and longer interview slots, boundaries had to be established from the outset; meetings at the cinema crossed those boundaries. Meanwhile in the barrios of the southern zone, residents were bewildered as to why I was on my own and childless. Men tended to be thrown by the fact I had been 'allowed' to come to Bolivia on my own; one local taxi driver asked me why my father and partner had let me travel unaccompanied. Meanwhile, the women in the barrio were concerned that I didn't have children, I was told several times that, at the age of twenty eight, I had left it too late to have children, or needed to rush back to my partner to have babies as I was getting too weak to have children. While being a woman made it easy to undertake household interviews with women who stayed at home during the day, at times, not having a family and being single made women in the barrio more wary of me.

Interviews with NGOs and social movement representatives working on water were easy to arrange and here I was less of an oddity. While some people were obviously suffering from Water War fatigue, having described the events to so many students and activists over the space of ten years, most were happy to talk after hearing that I did not want to discuss the events of 2000-2001. There are alliances between certain NGOs and social movements, with some more partisan to the state than others, which only become apparent after spending some time in the field. I was often asked whether other NGOs or social movements were 'working' on my project or how they had responded to certain questions. Some NGO workers and activists became friends, and it was typical to find that the views and opinions on water reforms can vary depending on

whether they are talking on behalf of their organisation or as an individual. The difficulties of informants who become friends and the impact that has on the data collected, is often discussed by anthropologists, some have argued that the roles of friends and informants are ultimately incompatible (Hendry 1992). I found that this was inevitable, and by reminding informants and friends of boundaries, fortunately I did not encounter any problems. I have, however, anonymised the identity of informants and places; this is discussed in further detail in the ethics section of this chapter.

I gathered data on how the right to water has been developed into policy and the reforms to the water sector since 2006 using a variety of data and methods. I triangulated interviews with civil servants with data found in municipal government and MISICUNI and NGO archives. I also began reviewing public policy documents including the Plurinational Constitution of Bolivia, The National Plan for Basic Sanitation and The National Plan for Development and grey material passed to me by civil servants. In order to get a better idea of how the state was consulting with peri-urban communities, and civil society at large I observed government consultations and social movement workshops and meetings around proposed reforms to the sector. By this point many of the actors present were familiar with me and so I was often advised about or even invited to such events.

In April 2010 there was a weeklong event to commemorate the Water War, this brought local water NGOs and activists together, alongside international water activists to Cochabamba. This event included lengthy discussion about what the right to water should mean in Bolivia and how this relates to international campaigns to recognise the right to water. Locally there were a variety of public meetings to discuss the progress, or more often the lack of progress, that had been made by SEMAPA to improve access to water in the Zona Sur. Observing these meetings provided me with a great opportunity to hear a range of different opinions on the reforms that had been made to the Bolivian water sector to date.

Furthermore, I was able to conduct several on the spot interviews with Canadian and European water activists who are not always readily available.

During this period, I spent time travelling across the municipality, specifically within the peri-urban southern zone to gather data on water provision and interventions, in order to develop maps and also to familiarise myself with the diverse methods of water access in the barrio. The first map sets out the diverse formal and informal water providers, in Cochabamba (see Map 2). The also mapped water sources and infrastructural or capacity building projects by the state or NGOs relating to water and areas that are subject to water poverty. This involved collating data from municipality records and NGOs, and field visits with engineers and project coordinators to large projects like the MISICUNI dam project, and smaller local projects like the EU-funded PASAAS projects to improve DWC infrastructure.

### **Water provision in the peri-urban interface: ethnography**

#### **April – September 2009**

Anthropologists have a notable tendency to think small... It sometimes helps even for the general planner to look at what his plans and generalizations mean on a small scale, the scale of the individual human being or the neighbourhood. (Peattie, 1968: 1-2)

There is a shortage of in-depth ethnographic work in peri-urban communities, and more specifically the capacity of peri-urban DWCs and their role within the community. There is wealth of similar work on rural irrigation systems, but there is limited research on drinking water committees in the peri-urban interface. Research on water provision in the Zona Sur of Cochabamba has tended to be short-term and focussed on collecting quantitative data (Wutich 2006) or based on interviews with social movement leaders, but the voices of peri-urban vecinos are often absent (Terhorst 2003). The state and social organisations frame the development and capacity of drinking water committees according to their respective political agendas. During the third and most challenging phase

of my fieldwork I had planned to undertake a traditional ethnographic methodology to explore the role and capacity of the DWCs, and further, the opportunities and challenges to enhance sustainable water provision in peri-urban areas. In practice, I needed to adopt a more reflexive approach. Ultimately, I supplemented the qualitative approach with quantitative data to attain the detailed and rich understanding of water provision in the peri-urban interface that I was seeking.

When I began planning this phase of fieldwork, I asked the advice of several NGOs operating in the *Zona Sur*. They told me to be mindful of my positionality as an unmarried foreign woman, and the preconceptions held by both men and women. Moreover, several NGO workers advised me against the work I was trying to undertake. They told me I was putting myself at risk of being robbed or worse, and naturally at first I heeded to their concerns. Often, NGOs that were based in the wealthy northern suburbs of the city would send workers down in taxis to undertake half-day workshops, but few of them stayed any longer or lived in the communities they were working with. I spoke to volunteer organizations and churches that housed volunteers in the *Zona Sur*, and they gave me a different perspective, and encouraged my work. The secretary of the DWC in the barrio where I undertook my fieldwork was instrumental in the development of this stage of my fieldwork, and put many of my fears into perspective. I asked her whether the *Zona Sur* was dangerous and she responded “Yes, *definitely!*” somewhat taken aback, I asked her why and what I could best do to protect myself. At this point she lifted up her trouser leg to show me the scars she had on her ankles from nipping dogs in the barrio, and told me I would be safe if I was quick on my feet. These words, (along with a rabies vaccine booster) gave me renewed confidence to undertake ethnographic work in the southern zone. That is not to say undertaking work in the *Zona Sur* was not challenging. I approached fieldwork delicately and with caution. The barrios of the *Zona Sur* are closed spaces; communities are often fragmented and prone to conflict between and within communities. It took time to understand why and how these conflicts arise. I tried to align myself with some of the most

neutral members of the barrio. A Franciscan priest from the United States, who had been living in the barrio for almost two decades, and who was respected by the community become a friend and an advisor and helped me to maintain a favourable position within the barrio.

### **Gaining a *sort of* acceptance in the barrio**

I intended to find a community with a water committee that was part of an association of DWCs called ASICASUDD-EPSAS, and so began attending their weekly workshops for all water committee secretaries, with the intention of finding a committee that had been with the association for some time, and had been in receipt of funding and/or been the focus of some of the government reforms. I was cautious about going through the ASICASUDD-EPSAS as far as I suspected that there were a few 'show-case' committees that academics, NGOs, activists and researchers regularly engage with. Goldstein (2002) has highlighted how there are some communities in the *Zona Sur* that are the subject of regular interventions and investigations because they are harmonious communities that are well organised (ibid, 489). In an attempt to meet and engage with a few DWCs, I attended a few of the regular ASICASUDD-EPSAS meetings and workshops for member DWCs. Here I met Doña Petra, the secretary for the DWC Agua Sur that operates in barrio 15 de Febrero, and she invited me to help out with some work. I heard nothing for a few weeks and then I received a call around 5.30am one Sunday from Doña Petra, asking me to come and help clean the water tank out. The following week I shadowed her on her debt-collecting rounds. Having demonstrated that I was willing to participate, Doña Petra seemed somewhat more comfortable with me, and people around town started to recognize me.

The barrios of the *Zona Sur* are difficult places to get to grips with. Demographic information is unreliable or non-existent and often undermined by the fact that there is a mix of permanent residents and *vecinos* (residents) who are only there for seasonal work or during term time for studies. This, combined with a fear of crime and infighting

between different parts of the community, means that is a highly fragmented group of people (this is discussed in more detail in chapter 7). Gaining complete acceptance by the community would be impossible. One priest who had been working in the barrio for seven years told me over coffee one morning how happy he was to have been invited in for dinner by his next-door neighbour that day. They had been neighbours for seven years, it had taken that long for them to develop the relationship, but this was not unusual, *vecinos* tended to be suspicious of newcomers. *Vecinos* also tended to work long hours in the city and often lived in houses that were surrounded by high gates and walls lined with broken glass, furthermore the barrio did not provide many public spaces for congregation. Consequently, it would not be unusual to meet *vecinos* who didn't know the names of their neighbours, let alone invite them in for coffee. In sum, and in light of the fragmented nature of the community, the best I could hope for in this barrio was a sort of acceptance.

I began to volunteer at the school run by the Franciscan priest during the mornings, in an attempt to get to know the barrio; this was also where I stayed while I was working in the barrio. I was eventually given a formal introduction by the Residents' Association, firstly over tea with the president of the community, and then I was invited to come along to one of their monthly resident meetings. This was a difficult first meeting. I was given the opportunity to present my research plans to the barrio, and the president then encouraged all residents to cooperate with me where possible. There was, however, an expectation from the outset that I might be able to bring money in, either for projects, like the NGOs working in the region, or otherwise perhaps I would want to invest in a *vecino's* business. I imagine that most *vecinos* were disappointed to find out I had mainly come to the barrio to ask lots of questions. Ultimately, people were friendly and encouraging, and during this meeting the barrio president volunteered the help of the eldest students at the local school, who were just turning 18. The following week I met with a class of them and offered to pay a small group of students to work as my research assistants. They refused the money. I have a feeling it was because they had been told to

do so by the head teacher. Consequently, I offered to help them prepare for their English exam, which was to put on *The Three Little Pigs* as a play in front of the school: the exchange worked well. Having research assistants was helpful because they knew the barrio so well. They knew who lived where, and the residents recognised them. They also spoke Quechua (the local indigenous language) and some of the barrio elders spoke little Spanish, so they were able to translate for me. We began fieldwork by trying to understand the history of the barrio. The barrio had been an informal illegal barrio for several decades and there was no written history of it. We collected a series of life histories with barrio elders, sometimes individual sometimes with groups so that they could re-call events collectively. I then began systematically interviewing the key members of the water committee and spending more time shadowing Dona Petra to understand more about the committee. I interviewed the leaders of the Residents' Association in order to understand how they related to the water committee and understand the challenges to improving water provision in the barrio. I conducted one-on-one interviews such as these independently at their places of work or at their houses. I spent several days shadowing the principle engineer in charge of upgrading the water system under the EU PASAAS project which funded rural and peri-urban potable water and sanitation projects, in order to understand some of the technical challenges in developing a water system for peri-urban areas.

### **Finding methods that work in the peri-urban interface**

After having spent a few weeks in the barrio I was contacted by an MA student at the state university in the city, Universidad Mayor San Simon (UMSS). The student, Maria Renee, was conducting research in the barrio around waste and waste disposal. We discussed the difficulties of working in the barrio and collecting data using ethnographic methods, particularly observation, participant observation and informal conversations. Vecinos live in houses that are built behind large walls and rarely use the limited dusty public spaces during daylight hours because many work in the centre of the city or often because it is too hot. During



the evening people stayed indoors because they were scared of crime. I was able to conduct some participant observation in the weekly neighbourhood meetings and monthly water committee meetings. These provided a useful but rare glimpse of the community dynamics, and the conflict that existed between the water committee and the neighbourhood association, or the discontent that some *vecinos* felt towards the neighbourhood leader. Nonetheless, often less than a quarter of the *barrio* participated in these meetings. I had to find a way to reach the other *vecinos*.

Maria Renee and I discussed the value of developing a short survey. The last census had been conducted over a decade ago in 2001. As discussed in further detail in chapters 6 and 7, there is limited demographic data available about the Zona Sur. NGOs, communities and social organisations often hold more recent demographic data, but it's often incomplete, or not readily available. State planning for the peri-urban interface is then based on data or projected data from the 2001 census. The data that is available is contested, with varying figures on the population size of Cochabamba, which has been particularly challenging for planners. This thesis has used the projected figures from the National Institute for Statistics in Bolivia, but also recognises that during the last census many parts of the Zona Sur were not populated. Furthermore, during the last census many of the *barrios* were still 'informal' and so socio-economic data was not gathered on them. Some researchers that have worked in the Zona Sur for some time have contended that data from the next census is likely to have a negative impact on the socio-economic status of the Zona Sur (Los Tiempos 2012). After pressure from social movements for a long-over-due census, the state has endeavoured to gather data from every household in Bolivia in order to develop updated and comprehensive demographic and socio-economic data on the whole population (on census day no one is allowed to leave their house or else they face a £300 fine).

This is problematic in the peri-urban interface, a region that has been subject to large influxes. We thus felt it would be useful to gather more up-to-date household data, and so we designed a household survey that incorporated questions for both our research, the survey contained questions not dissimilar from those in the census, and a section on water use and waste disposal. We recognised the limitations of a survey approach in the peri-urban interface, first, because of the transient nature of the population, which is often seasonal; second, we recognised that the informal nature of the *barrio* could mean that some residents may not give us accurate answers, many are wary of civil servants or those they suspect may be working with the state. Traditional state-citizen relationships were weak in the *barrio*. *Vecinos* often rely on informal private and collective basic service providers and have little allegiance towards the state, or reason to cooperate with state and non-state actors who have let them down in the past. I was advised by the priest and NGOs working in the region to expect that residents might exaggerate levels of poverty or the failings of the water committee in an attempt to secure funding or supplies to improve the community or the water system. We tried our best to mitigate this by receiving an official introduction to the community by the head of the community and by making clear that we had no allegiances with the state and had no access to funds or resources to improve the community. I wanted to reciprocate the helpfulness of the community to some extent, and so I took part in several community workdays. This included one project to paint the community hall and clear the land around it. I went to the local market and bought paint supplies and then helped with the painting and clearing. While I could not provide funding for the new sports hall they wanted, I could show willing by buying building supplies, and helping at workdays when required.

We began administering the survey with the help of the students once it was approved by the neighbourhood council on the promise we could give back some of the household survey data to the residents. While the data gathered was useful and could be helpful for future comparative

research in the region, this method mainly helped us to overcome the 'closed' nature of the barrio. Once we were inside, people were often willing to sit and talk and we were able to enlist informants who were willing to undertake more in-depth semi-structured interviews around access to water and how it had changed over time. This method also allowed me to explore and confirm some of my understandings of trends in water use in different parts of the barrio. This method was originally employed to get a feel for the barrio; however, we were able to gather a sizable data set on water use in the barrio. Our sample size was 100 out of 293 households and we collected 82 responses. We were aiming to engage with a third of the barrio. We split the barrio up into 10 zones and randomly knocked on 12 households in each zone. In some areas we had a better response than others and in chapter 7, I set out some of the socio economic disparities between regions of the barrio, which may have contributed to a lower response rate in some regions over others.

I adopted a snowballing method (Biernacki and Waldorf 1981) of sampling for more in-depth semi- structured interviews as I got to know the barrio in more depth and became acquainted with more people. I also undertook further group interviews, when I was looking to establish the history of the barrio. This meant that different vecinos were able to corroborate dates and jog each other's memory. Without a formally documented history of the barrio it was important to triangulate the data that we had gathered to build the barrio's history. Furthermore, it was obviously an enjoyable activity for vecinos to reminisce about the past.

I collected most of my data on weekends when people were most likely to be in. During the week, I complemented the survey data and interviews I was conducting with participatory rapid appraisal methods such as transect walks, and walk and talk session with community members who stayed in the barrio and those who were part of the water committee or working for the committee. I undertook walk and talk sessions, where I would ask stay at home mothers, members of the water committee and local engineers who were upgrading the water system to walk and talk

me through the barrio. I did this in order to get a multi-dimensional understanding of the region. All in all my approach drew on many different methodologies and entailed much trial and error, however, I think that the dynamic and challenging nature of the peri-urban interface requires a more reflexive approach to research design and methodological approach.

There is limited formal cartographic and demographic data on the zona sur. I have drawn on a lot of the data gathered during transect walks, along with grey material, such as community maps and surveys, held by the community, to build multi-dimensional maps of the barrio. This allowed me to understand how residents used public spaces and regions that are thought to be more dangerous than others, and furthermore, some of the socio-spatial inequalities that are not visible on a satellite image or map.

Water provision was contested in the barrio. The DWC had control of the water system, but the Residents' Association sought to undermine the DWC and wanted control of the system. This meant that maintaining relationships with the water committee and the residents association could be tricky at times. I always explained that I neither worked for the committee, the federation nor the residents association, and helping out more or less equally at neighbourhood workdays as well as water committee workdays was another way of negotiating this. Once again, due to the sensitive nature of some of the information disclosed within the barrio, I have anonymised the barrio, its residents and the water committee.

### **Follow up**

I re-visited the field in July 2011, after I had started analysing and writing up. This was principally to corroborate my findings with some of the Bolivian academics I had been working with and also to fill some small gaps with supplementary interviews with my informants and field visits. I also wanted to share my findings with some of my informants, particularly

those working for NGOs in the region, who were keen to hear how I had analysed and interpreted their work. In addition I have promised to send a summary of my thesis to them once it is completed.

### **Leaving the field and analysing data**

As my fieldwork drew to a close, I was faced with processing and analysing the data gathered. I had collected a diverse data set, including extensive grey material and policy documents from the government departments and NGOs working in the water sector. I also had formal and informal cartographic and demographic data on the Zona Sur that needed to be triangulated and synthesized. During the ethnographic phase of my research, I had collected 82 household surveys, conducted more than 100 interviews and filled five personal field diaries with my ethnographic observations. This was the most challenging data to analyse; translating personal experiences into thesis data is a daunting prospect. I had started to generally code the data that I had gathered while in the field, and then when I arrived back in the UK I began the process of more rigorous coding. Emerson et al (1995) set out how coding comes from 'reviewing, re-experiencing and re-examining everything that has been written while self-consciously seeking to identify themes, patterns and variations within this record' (144). With time I created clear categories into which I needed to clean, organize and classify the data that I had gathered (LeCompte and Schensul, 1999: 67). While I have used coding software in the past, I decided to code my data by hand. In my experience, manual coding was a more efficient method of drawing out data and engaging with the text. It also allowed me to begin general coding while in the field, where I often did not have access to my laptop. Once I had gathered my data I began the writing up process by writing vignettes, small 'impressionistic accounts' (Van Maanen, 2011: 103) that helped me develop ideas and chapters.

### **Ethics**

On the surface, the data gathered in the field was not of a particularly sensitive nature. However, I was undertaking predominantly ethnographic

methods in the field that meant I spent a lengthy time in the city of Cochabamba and in the Zona Sur, and I drew on the work of Punch (1994) and was mindful of the relationships that I developed with my informants, their knowledge of the research being undertaken, and how the data was then kept and has since been presented. Punch (ibid) sets out the need to establish relationships with informants that are not exploitative, that are open and not deceptive, and finally that are informed and with consent, and that protect the privacy of barrio resident, activists, NGO workers and, in some cases, friends. In practice this meant undertaking research that required informed consent, after having explained the purpose of my research and how and where the findings would be later presented. The more time that I spent in the barrio, the more I became aware that water management was highly contentious, and that relationships between the community and different actors, including the state, NGOs and social organisations were delicate and often contentious. I ultimately decided that it would be best to anonymise most interviewees and the name of the barrio and committee where the research was undertaken, in order to be able to develop a fuller account of the water committee without compromising my informants. There was on-going conflict between the DWC and the neighbourhood association regarding who should control the water supply in the region, I have thus endeavoured not to reveal too much about the individuals, their institutions or location.

In keeping with this I have anonymised the water activists and NGO workers due to the various alliances that exist between different actors and organisations involved in and/or lobbying the water sector. As outlined earlier in this chapter, over time I became mindful of the power relations between different actors and had to be careful not to align myself too closely with any one institution. Firstly, I was always aware of my positionality as a western researcher who had come to a poor and marginalised barrio for a short while to undertake ethnographic work. In the barrio, there were tensions between the residents association and the water committee, and thus I had to be clear that I was not working for

either. Community organisations had complex relationships with NGOs and social organisations that worked in the barrio or represented water committees, I thus had to be discreet with information gathered from either. Moreover, certain government agencies and public utilities had contested relationships with social organisations and movements representing drinking water committees.

This chapter has outlined my methodological approach, and set out how this research has unfolded over time. The following chapter provides some background to my research, thus contextualising the empirical chapters that follow.

### Chapter 3- Bolivia: A brief overview

Since the election of Evo Morales, Bolivia has developed an international reputation as a progressive and radical state. In 2009 the government expelled the IMF and the US ambassador (Guardian Editorial 2009). Bolivia was the only country that refused to sign the COP 16 agreement on climate change on the grounds that it did not go far enough (Solon 2010). It also hosted the first World People's Conference on Climate Change and the Rights of Mother Earth in 2010. Meanwhile, president Morales was posthumously crowned the first (and only) *World hero of mother earth*, by the UN General Assembly. Bolivia has also been lauded internationally for passing a progressive constitution, which enshrines extensive human and indigenous rights (Canessa 2012: 23).

However, in recent years Bolivia has not been without its critics. On August 2<sup>nd</sup> 2012 Amnesty International released a statement. It contended that the Bolivian state should recognize the rights of indigenous communities in TIPNIS National Park in the Amazon lowlands of Bolivia *to previous informed consultation* on a proposed highway that would run through their territory. This statement was the culmination of months of protest by local indigenous communities, green activists and social movements against a highway that would create a north eastern link between Cochabamba to Beni (as part of the IIRSA (Initiative for the Infrastructure of Regional Infrastructure in South America)) project. The local communities organised two marches of over 300 miles from Trinidad to the administrative capitol La Paz to highlight their plight, and to demand their constitutional right to consultation on development projects (Canessa 2012). The steamrolling of the project by the state without consultation undermined the sovereignty and rights of the indigenous councils that were supposedly protected by the Bolivian constitution.

The state claims that the road is essential for regional and local development, and that the protests are actually the product of a conspiracy organized by foreign NGOs (Hines 2011). Meanwhile activists



campaigning against the road expressed concerns that it would open up the Amazon to further exploitation. They also contended that it is a reflection of Brazilian hegemony in the region and that the infrastructure serves to promote the interests Brazilian business, as new pathways are opened up from east to West. What is undisputable is that the state has failed to recognize the indigenous communities' constitutional rights to previous consultation on development projects as enshrined in the constitution.

The TIPNIS case reveals how the needs and rights of some groups continue to be marginalised in Bolivia even under this supposedly progressive government. Furthermore, this is not an isolated case, but the most dramatic and notable to date. There are other examples of industrial and mining projects where communities' rights to water sources have been overlooked (Moran 2009; Bustamante, Crespo et al. 2011). These demonstrate the contradictions in government policy and rhetoric, and limitations of the constitutional rights enshrined under Evo Morales. Furthermore, these cases highlight the challenge posed by the juridical plurality that characterises Bolivia, meaning the existence of different normative systems (often but not always indigenous) beyond the established juridical norms of the state (Regalsky 2009) that has come to characterise Bolivia and has recently been recognised in the constitution.

This chapter seeks to set out the historic context and sequence of events that have led to the current political context, the evolution of the policies around the right to water and the existence of non-state institutions including water providers. It is not possible to understand the current context of political reform and water provision in Bolivia, without first understanding this socio-political history. I set out Bolivia's current development status, to situate it within Latin America. I then set out the regional socio-spatial differences that characterise Bolivia, to situate Cochabamba and contextualise patterns of migration. I then consider the development of the Bolivian state and its relationships with Bolivians over time. I touch upon ideas of indigeneity because I believe this provides a

basis to understand recent political movements, and ideas of indigeneity in the city in chapter's 6 and 7. I go on to consider some of the challenges and contradictions of the Morales government, which emerge from the socio-political history outlined in this chapter.

### **Bolivia in 2012**

For a period Bolivia's international reputation was forged around the idea that it was the poorest and most unequal country in Latin America. It had a track record of political instability and experienced a succession of rebellions, uprising, and dictatorships, which gives Bolivia an infamous world record for having had 189 coups in the 154 years between 1826 and 1980 (Clomer, 2001:182). This was followed by a period of intense neo-liberal re-structuring under successive governments, which led to an almost inevitable public backlash during the early 2000s. In 2005, Evo Morales, an indigenous coca growers union leader, and head of the Movement for Socialism, was elected as president. This was widely heralded as a step change. With the widespread popular support of indigenous social movements and unions Bolivia followed in the footsteps of Venezuela, Ecuador and Brazil. This was proclaimed by the international press to be part of the pink tide of socialism that was sweeping the continent; another leftist domino had fallen in Latin America. President Morales has ushered in the longest coup-free period of democratic political stability in living memory, and has until recently, enjoyed widespread popular support from citizens, social movements and unions. This political stability has allowed the president to usher in far-reaching economic reforms including the nationalisation of several major industries and constitutional reforms that include a myriad of human, civil, political and indigenous rights.

Bolivia is no longer *the* most unequal country in Latin America, but it still ranks poorly on the Human Development Index against its Latin American counterparts, only coming in above Haiti, Nicaragua, Honduras, Guatemala and Guyana (UNDP 2010). While still poor and unequal, things are improving (see UNDP report 2010). The country has enjoyed a

long period of sustained economic growth since the early 2000s, and has reduced the national debt to below 40% of the GDP from 94% in 2003 (World Bank 2009). While extreme poverty is declining, over half of the population still experience moderate poverty and socio-economic inequality is widespread (UNDP 2010). The apparatus of the state is still considered to be weak by international agencies (World Bank 2009) and a large proportion of Bolivians rely on the informal economy and informal basic service provision. This is true in rural, urban and peri-urban communities. Furthermore, the state's failure to develop adequate infrastructure has been widely documented (World Bank 2009, UNDP 2010). Consequently, as evidenced in the water sector there is an extensive patchwork of informal providers that have evolved to meet the basic needs of Bolivians. The role and capacity of informal providers and economies, and the impact they have on the economy and basic service provision are rarely recognised by the state or international agencies. Indeed if we look at a map of water providers in Cochabamba it only reveals the water provided by the public utility SEMAPA (see Map 3). The role and capacity of the numerous water committees beyond the centre is unknown and unaccounted for (see Map 2). This thesis focuses on the logic behind reforms since 2006 that seek to consolidate the role of the state in water provision, and how reforms affect informal providers such as the peri-urban DWCs.

While government rhetoric suggests a strong re-distributive economic policy, which prioritises social spending, Webber (2011) demonstrates that social spending between 2005 and 2008 actually declined as a percentage of GDP. Although there are direct cash transfer schemes for children and the elderly (ibid: 198), spending on infrastructure for basic services has been more opaque. At the time of writing there was still no funding to expand the public water system in Cochabamba. The National Plan for Basic Sanitation highlights the need to secure more investment in the water sector, and recently the state has been successful in securing loans to develop the sector from institutions such as the Inter

American Development Bank which committed \$78 million to the sector in 2012 (MMAYA 2012).

As highlighted in the instance of the TIPNIS, it has become increasingly evident that the state is finding it difficult to realise, develop and fulfil its constitutional commitment to human and indigenous rights. The state and structures of state governance continue to be weak. The economy continues to depend on the extractive industries, and Bolivia is at the whim of the cross-border development initiatives of powerful regional actors like Brazil.

### **Understanding the regional differences**

One cannot overstress how diverse and varied Bolivia's physical geography is. Although landlocked, it has three distinctive regions: the highlands, the lowlands and valleys, and the Altiplano. Each one presents distinctive environments and landscapes, with specific natural resources and communities. Consequently there are broad and varied physical and social challenges that impact on water provision in Bolivia. Cities in Bolivia tend to be supplied by municipal- level water providers; however, beyond the urban centres, peri-urban communities rely on a range of water providers and sources, many of which are informal. The following pages briefly outline the general differences between these diverse regions and the challenges to water provision in the region. I demonstrate that across the country, in diverse settings, the weakness of the state has led to the entrenchment of informal community water providers in various forms.

***The Altiplano*** (the plateau) is Latin America's highest plateau. It runs down the western flank of the country and is dominated by enormous snow-capped peaks and active volcanoes. The Altiplano is also home to the world's highest navigable lake, Lake Titicaca, and the administrative capitol La Paz. This region has proven to be particularly vulnerable to climate change. Here communities have relied on community systems served by glacial melt water from Chacaltaya for domestic and productive

uses. Over time the glaciers have melted and receded. Consequently, younger generations have moved to La Paz and El Alto in search of work, as the agricultural practices of their parents and grandparents become unviable (Rosenthal 2009).

The Altiplano runs south along the Andes to the mining regions of Oruro and Potosi, down to the salt lakes and on to Chile. These regions are exposed, inhospitable and extreme, as captured by the local saying *you will burn in the sun and freeze in the shade*. Oruro and Potosi have been mining centres for centuries. Potosi's mineral riches, along with its people, provided the silver that underpinned the development of the colonial Spanish empire. The mines would later supply the tin that would gild the empires of the country's tin barons, and supply up to a quarter of the world's tin during the first half of the 20<sup>th</sup> century (Dunkerly, 1984:7). Miners from this region were slaves until the 1940s when slavery was abolished. Then in the late 1940s the first mining union was forged. The miners were few in numbers compared to the rural peasants, but they have, and continue, to wield political power because of the intrinsic role that mining played in the national economy. In 1950 3.2% of the active working population worked in the mining sector which accounted for 25% of the GDP, meanwhile 72% of the population worked in agriculture, cultivating only 2% of the land and worth only 33% of GDP (ibid: 5). Many miners relocated to the cities and peri-urban areas in the late 1980s and early 1990s (for reasons discussed later in this chapter). The identity of the mining communities has carried to the cities, and has shaped the DWCs that are the focus of this thesis. This phenomenon is discussed in chapters 6 and 7.

Mining continues in the southern Altiplano today. Small mining cooperatives eke out the last scraps of metals from mighty mountains such as Cerro Rico. Meanwhile larger mines have been established or re-opened by Canadian and Japanese mining firms looking to extract and export silver and copper at scale. Conflicts over water resources in these regions are not uncommon. The rights granted to mines such as San

Cristobal to exploit subterranean water sources have undermined the local community water rights of farmers. In the case of San Cristobal, the mine has been proven to deplete and contaminated groundwater sources that quinoa growers rely on. Meanwhile the state has yet to honour the constitutional rights of communities to consultation on this, or other projects and industries that might have social and environmental impacts (see Moran 2009 for discussion of this). The experiences of these mining communities highlight some of the general hurdles that have impeded the recognition of new constitutional rights in Bolivia.

***The Valleys*** are the eastern slopes that descend off the *Altiplano*. They are characterised by their fertile soils and temperate climate. Until the middle of the last century there were numerous haciendas in this region. Today farming and peasant unions exist where the haciendas once stood, some of which have become closely aligned with Evo Morales and his party the MAS (The Movement for Socialism). In *The Valleys* the cities of Sucre and Cochabamba are located. Beyond Cochabamba to the north-east in the lush hills of the Chapare, resettled miners make up some of the formidable coca growers or *cocaleros*. They grown the leaf that many Bolivians chew and hold sacred, but which is also the core ingredient for cocaine. The coca-growing unions, that emerged here, are where Evo Morales cut his political teeth. They continue to be strong and provide some base support for the president's political party.

The third topography is ***The Lowlands***, the eastern flatlands than run east from *the valleys*. They are expansive, sparsely populated and remote. The indigenous populations in these regions have little contact with the state, and tend to be organised according to indigenous councils. They have come under threat, of late, from development initiatives, specifically the IIRSA project. This is where the TIPNIS is, and where the proposed highway will run.

### **Being indigenous in Bolivia today**

The following considers ideas of indigeneity in Bolivia today. Peri-urban parts of Bolivia are often home to indigenous migrants. Furthermore, as will be discussed in chapter 6 and 7, peri-urban DWCs often draw in indigenous and mining discourses to develop a sense of community in peri-urban areas. Furthermore, Bolivia is often perceived to be one of the 'most indigenous' countries in Latin America, with an indigenous president and famous indigenous social movements. It was also host to the world's first indigenous people's conference on climate change. During the 2001 census 62% of the population ascribed themselves indigenous, this was the first time that Bolivians could self-ascribe, to be indigenous prior to this, one had to speak an indigenous language. The majority of those who claimed to be indigenous were living in urban centres (Canessa, 2007). This shows that the act of proclaiming to be indigenous in the census could be both an expression of belonging to an indigenous community, or an individual expression based on political or personal ideals. Indeed, Regalsky (2009) has highlighted that less people ascribe to a collective indigenous ideal. This is not to make a judgement on which is more valid, it is simply to recognise the difference between the collective and the individual indigenous.

The term indigenous was quashed to some extent during the 1950s, when the term Indian was taken out of the census in favour of the word campesino (peasant). This reflected the co-option of the rural peasants into union structures as part of the 1952 revolution, and thus ideas of ethnicity were supplanted with ideas of class (Canessa, 2008:201) for a time at least. The long-term failure of the 1952 revolution (discussed in more detail in the following pages) led to the repression of class based politics and ideas of indigenous ethnicity which, in turn, led to a revival of indigenous movements during the 1970s and 1980s. This revival led to the first in a series of marches to draw attention to the plight of diverse indigenous movements (Regalsky 2009).

Many of the social movements that emerged during this period went on to support the election of president Morales in 2005. But over time the idea of indigeneity in Bolivia has been essentialized and homogenized in popular politics. There are numerous different indigenous communities in Bolivia even today, and there has, historically, been conflict between and within these groups. During the summer of 2011, conflict arose between the *indigenous* coca-growers that forged Evo Morales, and who support the development of a new road through the TIPNIS on the basis of the benefits it will bring to the coca trade, and the *indigenous* communities who live in the lowlands and whose livelihoods and local environment are set to be overhauled by the project. Moreover this conflict has been encouraged by the president himself, who, during a speech to the coca unions suggested his comrades might seduce the local indigenous women into agreeing to the road.

If I had time, I would go to the Yuracaré women and convince no to oppose (the road). You young men, have instructions from the president to seduce the Yuracaré and Trinitaria women, so that they don't oppose the road. (Los Tiempos 2011)

There is conflict between diverse indigenous groups, and some of them evidently enjoy a better relationship with the state, than those that are clearly marginalised and undermined by it.

This thesis does not have the scope to discuss in any great detail the extensive literature relating to indigeneity in Bolivia. Instead, this brief discussion of ideas of indigeneity is included because Bolivia is becoming increasingly urban, 60% of the population now live in urban areas. However, urbanised ideas of indigeneity are not in keeping with the essentialised ideal of being indigenous (Canessa 2006). Collective ideas of indigeneity persist in some urban settings (Lazar 2008) but individuals can also ascribe themselves as indigenous. Increasingly academics working in Bolivia are beginning to consider how ideas of indigeneity, and forms of indigenous organising influence social structures in urban and peri-urban settings (see Lazar 2008 and Goldstein 2004). This thesis



considers to what extent ideas of indigeneity frame and influence the development of peri-urban DWCs

In the following pages I take a glance at the political history of Bolivia and how it has shaped state-citizen relations. I locate some of the key historic legislative reforms that have shaped the water sector over the 20<sup>th</sup> century and that have led to the institutional and juridical plurality and inter-legality that characterises every day life in Bolivia.

### **From independence to the 1952 revolution**

The early Bolivian state was established to serve the needs of a small elite. The first constitution of the republic of Bolivia was written in 1826 following Bolivia's independence from Spain. It only recognised Bolivian men who could read and write, who owned property valued at more than 200 bolivianos, and who were listed on the civic register. Bolivian citizens were thus recognised as the tin barons and mining magnates and the land-owning elites in and around the cities. This constitution excluded most indigenous Bolivians from civic rights, but developed a structure of taxation for indigenous communities (UNDP 2010: 160).

Bolivia's first (and only) water law was passed in 1906, and reflects a similar agenda that protected the interests of landowners and the elites. While the law recognised water as a public good, in practice access to water was based on private rights to water that were generally tied to property and land rights. Rights to water were somewhat ambiguous, but skewed in favour of landowners during an era when many of today's Bolivian metropolises were small towns and markets. Landlords (from the agricultural or mining sector) with water on their land had usufruct rights so long as its use had no direct negative impact on third parties. Anyone who could prove that they had been using water for more than 30 years could claim the source as their private property.

The Constitution of 1938 now recognised citizens to be men over 21 who could read or write, they no longer had to own property however. The

constitution also introduced some benefits for indigenous groups, specifically the prohibition of slavery and servitude. This reflected broader international and national struggles for citizenship and citizenship rights (ibid: 159-160).

During the late 1940s things began to change as previously marginalised mining groups began mobilising through unions. This formed the basis for a leftist political movement in Bolivia that would challenge the status quo, and further, was able to co-opt the rural peasants.

In this phase, Indian and peasant insurgency in the countryside would coincide with proletarian activism, galvanized the mining districts, to make possible deep changes to society...Aymara and Quechua community members... continued to challenge landlords over land, labour and the right to education. (Hylton and Thompson, 2007:73)

These processes were the precursors to the revolution of 1952, which was steered by the MNR (The National Revolutionary Movement), a centre-leftist party that consolidated support from the mining bases and the peasants, and came into power as a result.

### **1967: Post-revolution**

The MNR government instigated reforms that would lead to the 1967 constitution that recognised all Bolivians over the age of 18 as citizens, regardless of their status, property ownership or occupation. The constitution came on the back of a series of progressive political reforms, specifically the agrarian reforms that led to the dissolution of the haciendas, the abolition of landlords, and the redistribution of land to peasants. Some have argued that the agrarian reforms in this period were symptomatic of state attempts to replace ideas of indigeneity with ideas of class, and that they embodied a broader shift towards the assimilation of indigenous communities. Robert Albro contends that:

Reforms sought to consolidate the country using a homogenised mixed identity of the *campesino* (peasant) and *mestizaje*, in an attempt at building a *modern nation*. "The ideology of *mestizaje* - the mixture of indigenous with non-indigenous - was paired with

the extension of individual citizenship rights to newly designated *campesinos* (*peasants*) who, it was imagined, would set aside their collective cultural investments in keeping with the expectations of modernity. (Albro 2010:74)

The post-revolution nation was thus built on homogenization and individual rights.

The period of reforms did not, however, lead to the homogenization of the population, indeed, it has been judged to have quite the opposite effect, leading to further entrenchment of indigenous and communal forms of organisation.

The disappearance of the authoritative figure of the landowner after the agrarian reform of 1953 led to the gradual reappearance of indirect communal indigenous governments, this time described as communitarian agrarian unions (Dunkerley 2007:74)

In practice, what did this mean? Communal structures of organisation began emerging to meet the needs of new farming communities that were developing where haciendas once stood. Alternatively, communities were forged around systems of irrigation that now served the community of farmers which emerged from the peasant labourers which had served the haciendas on the outskirts of Cochabamba. In sum, a strong state apparatus did not replace the landowner. As a result, deep-rooted state-citizen relationships were not forged, and communal organisations such as agrarian unions and indigenous councils persisted and grew. This history has a bearing on the formation of the organisational structures and institutions that have continued to develop for water provision (irrigation, and potable) in Bolivia until today.

Certain legislative reforms even consolidated emerging communal structures. In 1953 the *Ley de Reforma Agrarian* (Law of Agrarian Reform) was passed. This law had far reaching social and political consequences beyond how people accessed water (as discussed in the preceding chapter). This was the piece of legislation which brought about the dissolution of the haciendas and redistributed land as discussed

above. It also brought de-facto water rights to previously marginalized peasant communities. This had a particular impact on how water was managed and distributed in the north and northwest of Cochabamba. Communities developed around communally managed irrigation systems, these were often formed around pre-existing irrigation systems of old haciendas. These irrigation systems are based around dynamic ideas of uses and customs that were shaped by the physical constraints of the river basin, historic and cultural process, mutually agreed water rights, and the long-term management of the river (Flores et al 2004: 11). This law thus spurred the development of unions of collective water providers, and this model came to influence the development of other associations of communal water providers in peri-urban areas, including the DWC association ASICASUDD-EPSAS, that are discussed in chapter 5, 6 and 7.

It has been contended that diverse indigenous and community-led institutions prospered after 1952 as a direct result of the policies and approach of the MNR government as they sought to recognise and repay the union and peasant bases that they were established upon. Xavier Abro argues that the period following the revolution:

...Represent(ed) the longest and most successful attempt in Bolivian history to fashion a governing structure that was at once relatively solid and inclusive of the population as a whole... The 1952 national revolution brought about a series of transformations in the public and social spheres... the introduction of universal suffrage, even for illiterate *indigenas*... the expansion of rural education... new forms of peasant unionisation, encouraged by the government and backed by the presence of a substantial number of peasant representatives in Congress. (2008 18- 19)

One can thus understand the reforms to be part of a broader political process that intentionally incorporated and fostered indigenous and collective institutions and forms of social organisation.

Gray-Molina (2008) sees this as a period when the Bolivian state purposefully engaged with pre-existing social organisations, which

contributed to the institutional pluralism that characterises Bolivian society today.

“The national revolution in 1952 transformed the social and political scenario... A consequence of increasing pressures for popular participation and discontinuous state development has been the delegation of spheres of authority and dimensions of power to civil-society organisations by means of multiple institutional mechanisms. Institutional pluralism is the rule of law, - dual power, worker co-management, oversight committees, delegation taxation, communitarian justice - have resulted not out of state failure but from state's engagement with civil society and its ethnic regional diversity.” (112).

The institutional pluralism that Grey-Molina refers to is akin to the juridical pluralism that has been the focus of numerous studies that have emerged out of the Andes of late (Regalsky 2008. Assies, van der Haar, and Hoekema 2000). Traditionally, juridical pluralism has focused on communal indigenous systems that operate territorially and govern several aspects of every day life.

“The issue of juridical pluralism involves the recognition not only of different cultures and languages, but moreover it is an explicit recognition of different normative systems. This implies the existence of different jurisdictions in what might have profound effects on the way the state organizes the spatial configuration intended to establish its rule over the national territory.” (Regalsky, 2008:10)

In this thesis I explore how juridical pluralism now exists but in relation to certain aspects of daily life, that the state has been unable to provide, such as water provision. These are present not only in rural areas, but also in peri-urban areas.

Over time the MNR government grew increasingly conservative, and was eventually ousted by the military coup of 1964. This was followed by almost 30 years of successive military dictatorships that consolidated state capitalism but which curtailed real progressive social reforms. During this period the state continued to adopt a light touch approach to indigenous communities in rural areas (Yashar 2005). This meant in practice that the state did not extend influence into rural and tropical areas, and that indigenous councils and union institutions continued to

flourish. Regalsky (2010) argues that during this period indigenous communities...

...Embarked on the ethnification and the reconstitution of local power... These processes were taking place in movements that had gradually acquired a definite national and class character... deep-down ethnification underlines the reaffirmation of the commons that plays a vital role in the reproduction of the rural indigenous community. (41)

Meanwhile, in developing metropolises such as Cochabamba, the state pursued policies of exclusion towards the emerging informal settlements flourishing on the fringes of the city (Goldstein, 2004). In the absence of the state, migrants from indigenous communities or mining unions who had moved to these regions began organising at the level of the community for local development and for the provision of basic services. As demonstrated in chapter 6 and 7 of this thesis, the creation of unions and indigenous *ayulls* (indigenous councils) was not replicated in peri-urban areas, but many migrants were accustomed to organising collectively in the absence of the state as a result of the historical processes outlined above.

### **1980s: Economic crisis and neoliberal reform**

Migration to cities such as Cochabamba during the 1980s and 90's was driven by the neoliberal economic policies. These were proscribed by the IMF as a remedy to the Bolivian economic crisis of the 1980s. By 1985 inflation was running at 25,000% (for a full discussion of the reasons behind this see Dangle 2007, Postero 2006), that same year, under the guidance of Jeffery Sachs, the first phase of intensive structural adjustment reforms was rolled out. This began with the New Economic Policy of 1985 and the now infamous Decree 21060 that led to the privatisation of the national mines. The international tin market had collapsed and so the national mines, which had been the biggest source of state income, were sold off. Consequently, during the late 1980s 20,000 miners were 're-located', along with their families, leading to one of the biggest demographic upheavals in recent Bolivian history (Gill

1997). Unemployment continued to rise until the early 1990s as further national mines were sold or closed, the public sector was *streamlined*, and the continued global economic downturn led to closures in other areas of industry. It is estimated that at least 45,000 jobs were lost between 1986 and 1991 (Hylton 2007: 95). This led to dramatic social re-organising as miners and their families, along with farmers who had been hit by the economic crisis, migrated to the cities, and the fringes of cities, such as El Alto above La Paz and the southern zone of Cochabamba, in search of work.

There has been a tendency to presume that the displacement of rural and mining communities to the fringes of cities, has led to a reproduction of the strong tradition of collective organising which characterises them. (see Zibbechi 2010, Terhorst 2004). This presumption will be explored in more detail in chapters 6 and 7. Here I argue that while communities are organising collectively to provide water services, the communal organising observed in the Zona Sur of Cochabamba is different to that observed in rural and urban areas because it focuses on one basic service. There are numerous collective entities that operate to provide basic services here, from refuse collection to education, but they are fragmented and overlapping, and often don't correspond with the geographical boundaries of one barrio. Some are the result of state initiatives and some are the result of grassroots or NGO-led impulses, this is discussed in further detail in chapter 5. This structure of organisation is a result of the second round of neoliberal reforms that were implemented in the 1990s.

Neoliberal reforms during the 1990s were less intense than those that came before and focussed on decentralising state control and *streamlining* the state. The decentralisation and diffusion of state power to pre-existing social structures, including *ayllus* and neighbourhood associations, commenced through the LPP of 1994 (Law of Popular Participation). The LPP set out to:

...Recognize, promote and consolidate the process of Popular Participation articulated by indigenous communities, rural and urban life in legal, political and economic life. (de Lozada 1994: Art.1).

In practice this meant that communities could access per capita funds for local development initiatives.

In practice, these reforms have been assessed to be part of an approach that intended to build local groups to reduce “...*the pressure on the state and break up the burgeoning social and union organisations, such as the Bolivian Trade Union Confederation*” (Arbona, 2008: 28). Reforms were built on ideas of multiculturalism and were in keeping with broader neoliberal policies adopted across Latin America during this period (McNeish 2006). As outlined by Boelens;

State downsizing, decentralization is seized upon by central governments to lighten their responsibilities and strengthen their legitimacy and control at the local level... the previous (neoliberal) Bolivian government explicitly stated that the core purpose of decentralization was to re-establish state authority over society. (Boelens 2008: 321)

This was particularly useful in regions where historically, the state has had little or no legitimacy, specifically the rural and increasingly illegitimate peri-urban regions of Cochabamba (Goldstein 2004).

The LPP has also been interpreted as being a method of exerting state influence over non-state organizations (McNeish 2006). Policies of inclusion during this period co-opted indigenous leaders into state bureaucracies and extended the influence of the municipality into rural and indigenous communities, in an attempt to extend the influence of the state according to the development of Foucaultian governmentality. This, however, had a limited impact on established indigenous forms of organizing (Dunkerly 2007). These reforms also endeavoured to break up class-bound social movements, they encouraged the development of local forms of organising and identity, and relatively autonomous forms of



local governance, which inadvertently became outlets for the expression of alternative political discourses (Arbona, 2008:28).

Tapia (2008) continues in a similar vein by contending that the LPP reforms, that encouraged local structures of governance, had unintended long-term consequences and created the conditions for the emergence of alternative forms of organising with more agency, that he terms 'constituent power' (ibid 164-165). Tapia defines '*constituent power*' as "*a degree of fluidity in the existing social and political order*" and states that it "*thereby creates the conditions for reconstituting the social order by means of change in political forms*" (ibid 161). In essence, reforms that focussed on streamlining the state and decentralising power away from the central state and into communities, and pre-existing communal structures of organisation, provided indigenous communities with some room for manoeuvre. They also provided the space to exert political agency in an attempt to achieve social change. The weakness of the state and galvanization of community and indigenous organisations has been linked to some of the manifestations of discontent (as seen in the Water War and the Gas Wars) that characterised the early 2000s, and the demise of the neoliberal period. In sum, these social movements and uprising were able to unfold because of the weakness of the state at the time.

### **2000s: Rebellion**

Hylton sets out how (2007: 149) neoliberalism in Bolivia entered a period of decline in 1997 and transitioned to a phase of crisis by the year 2000. This is evidenced by an intense wave of indigenous and union-led insurgencies. The first prominent rebellion was the Water War. The Water War has to be located and contextualised within the broader political history of the state; however, it was the symbolic ignition for a cycle of insurgency that rejected neoliberalism in Bolivia (see Olivera and Lewis 2004, Shultz and Draper 2009 for full discussion of this).

Bolivia had been under pressure from the World Bank to privatise Cochabamba's water supply since the mid 1990s, as a precondition of IMF and World Bank debt relief packages (Schultz and Draper 2009). In 1999 the state contract was awarded to the sole bidder Bechtel which was granted sole rights to all the water sources in Cochabamba including the aquifer in the region (the legislative reforms that led to this are discussed in further detail in the following chapter).

Part of the concession was the development of the Misicuni dam building project. The cost of this project and the ruling against subsidies by the state for water customers led to water price increases of up to 200% for some communities within 2 months of the concession being granted. The contract also threatened to undermine the community-managed water and irrigation systems, based on ideas of mutual aid and traditional uses and customs that had developed around, and increasingly in, the peri-urban fringes of the city (see Crespo 2003). Protests began in 1999 and brought rural irrigator communities, Cochabambinos from the urban centre and wealthy northern suburbs, and, some water committees from the Zona Sur (an urban mythology that I scrutinise in more detail later in this thesis) together. These protests were to develop into the Water War. This urban-rural alliance that became known as the *Coordinadora del Agua* has been widely acclaimed for its horizontal organising structures that overcame class differences (McNeish 2004).

This thesis does not discuss the intricacies of the events between 2000 and 2001, this has been done thoroughly by several commentators (Nickson and Vargas 2002; Assies 2003; Crespo 2003; Shultz 2003; Bustamante 2004; Olivera 2004; Laurie 2005; Perreault 2006; Spronk and Webber 2007; Schultz and Draper 2009). I refer to it only to contextualise the impact that the social movement and civil unrest has had on the legitimacy of informal water systems in the municipality today. The Water War was the first in a series of rebellions against reforms that threatened to undermine established systems of environmental governance (Perreault 2006, 151). It was followed by further uprisings,

notably the Gas Wars (see Webber and Spronk 2007) and smaller uprisings such as the movement in defence of El Oro Azul (Blue Gold) that resisted the exports of water to Chile (see Mamani, 2005). These social movements, including the Cordinadora del Agua proved pivotal in the support that they provided to Evo Morales during his election campaigns.

### **The Rise of Evo Morales and MAS**

Postero (2010) describes how the failures of multiculturalism to tackle the racism and deep-set inequalities that were a feature of Bolivian society during the 1990s led to the emergence of indigenous parties and political leaders (ibid 24). The MAS (Movement for Socialism) led by Evo Morales was the most successful of these. The story of how a coca union leader rose to become the country's first indigenous president has been covered in great detail (see Webber 2012 for further discussion). While Morales lost the 2003 election he gained ground as a result of the growing insurgencies and manifestations and was subsequently inaugurated as president in 2006. Webber (2010) argues that the MAS began as a political instrument with radical anti-imperial foundations, but had become more pragmatic and reformist by the time that the election was won.

Nonetheless the international press rushed to declare that his election heralded a revolution, and was part of the pink tide that was sweeping across the continent that had been so thoroughly neoliberalised during the 1990s. However, with time an increasing number of Bolivianists from diverging political camps, have suggested that political reforms since 2006 do not mark a radical departure from the neoliberal politics of the past (see Webber 2010, Bebbington and Bebbington 2010, Hines 2011, Crespo) nor have they embodied the public sentiments that had characterised the rebellions between 2000 and 2001. Dunkerly (2010) encapsulates the sentiment and asks:

Is it, then, at all sensible to talk of a 'revolution' that was at least six years in the making and that had yet to deliver, in the form of materially implemented public policy, striking changes in the human condition? This may, indeed, be tantamount to a

promotion of rhetoric and popular ambition over substantive and lasting change. (142)

Of late, the continuity between the neoliberal state and Evo Morales' Plurinational state has become increasingly evident.

Following Morales' election, Bolivians developed and passed an ambitious constitution that guarantees Bolivians a range of human and indigenous rights (the process behind this will be discussed in relation to water in the following chapter). Furthermore, and similarly to Ecuador, the state is being restructured around ideas of plurinationalism. The concept of plurinationalism has framed political reforms and the campaigns of indigenous movements in the Andes since the 1990s. The concept is premised on the state recognising other indigenous 'nations' within the established nation state. In Ecuador it has become a political concept with some agency, as discussed by Jameson:

...The maturation of the concept has allowed the indigenous movement to take a principled and dynamic position, challenging existing political structures and parties" (2010: 71)

The term has been used in the Bolivian constitution since 1994, but has gained ground since Evo Morales' election, as he has introduced reforms based on recognising the rights and territories of indigenous people, regions and municipalities (Gustafson 2009).

The discourse of plurinationalism is now widespread across the Andes, but there remain concerns about how and to what extent autonomy for diverse indigenous groups, regions and municipalities can be realised in practice. As outlined by Gustafson, plurinationalism,

...Speaks of robust redistributive social rights rooted in a strong state alongside with equally robust indigenous rights. The question is whether plurinationalism can reconcile both indigenous rights and strong state sovereignty... (2009: 991)

### **The contradictions in *Buen Vivir***

The Bolivian state is now seeking to roll out extensive social reforms but continues to rely on expanding its extractive industries to fund the

reforms. Consequently there are now two competing paradigms that shape development in Bolivia, those are *Buen Vivir* or *Vivir Bien* (living well) and *El Gran Salto Industrial* (the great industrial leap). The TIPNIS case highlights the contradictions that have emerged since Morales' election in 2006 and which exist between the government's conflicting development paradigms.

*Buen Vivir* is based on the premise of living well as opposed to living better. This is best understood as an anti-capitalist Andean development paradigm also based on indigenous principles of living well in nature (Gudynas 2011). *Buen Vivir* is in-keeping with the state's commitment to defending indigenous rights and communal forms of natural resource management, and the rights of indigenous communities to participate in local development issues. It is a very potent ideology amongst indigenous social movements. Conversely, Bolivia is one of the poorest countries in Latin America that has historically been the victim of the resource curse, and thus has little agency to resist the regional infrastructural development program being pushed by Brazil. *El Gran Salto Industrial* forms part of a broader discourse of Andean Capitalism, a phase of up to 50 years that the vice president Garcia Linera has argued is necessary before Andean socialism can be recognized (Garcia Linera 2006), and extensive social and economic reforms can be implemented. In the mean time the rights of indigenous communities, and local community forms of organization, such as the communities in the TIPNIS are being compromised. This is not the only example, throughout Bolivia there are insurgencies against the continued presence of multinational corporations who control the extractives, and the development of mega dams across the Amazon basin. These are also as part of the IIRSA project that threatens local communities and the environment of the TIPNIS. These protests are endemic of growing discontent amongst the social movements and electorate that supported Evo Morales' first and second election. There are contradictions between the constitution which enshrines so many indigenous and human rights, and the continued

pursuit of economic development goals premised on the policy of expansion of the extractives and the industrial sectors.

## **Conclusion**

This chapter has attempted to briefly set out the historical creation of the Bolivian state, and the historical events that have led to Bolivia's current political reforms. It has also attempted to set out how reforms have shaped relationships between Bolivians and the state, and the emergence of the juridical plurality that characterises the state today. Above all this chapter has attempted to set out the historical, cultural and political context which has led to circumstances that have created the current reforms around water, and the informal providers that have emerged in peri-urban areas. The following chapter discusses how the right to water has shaped reforms to the water sector since 2006 and been contested by some.

## **Chapter 4: Reforming the Sector**

In this chapter I set out the legislative and policy context to the reforms that have been implemented in the water sector since 2006, under the banner of the human right to water. While Bolivia has played a key role in the international movement to recognize the right to water, the concept of the right to water has been controversial at a national level because it has the potential to undermine community-led water provision in both rural and urban settings (Crespo 2010). Theoretically, it has been contended that the right to water can be compatible with community-led water providers if there are appropriate legislative and policy frameworks in place (Bakker 2007). In this chapter I demonstrate how Bolivian water activists are concerned that reforms which attempt to actualise the right to water are symptomatic of the encroachment of the state, and that they will impinge upon the autonomy of community-led water providers.

The concept of the right to water remains (perhaps deliberately) opaque in Bolivia. A legislative framework to implement the aspirational reforms of the government has not been drafted. The human right to water in Bolivia is thus best understood as a banner under which extensive reforms have been undertaken since 2006. These reforms endeavour to universalise and improve access to water. They include the creation of a central Ministry for Water, (now the Ministry for Water and the Environment or MMAyA) and the appointment of a Water Minister. A new institutionalisation has been forged around water that seeks to consolidate state control over water provision in a country where a large proportion of water providers are unregulated.

There are few comprehensive figures on community water providers across Bolivia. This thesis draws on figures used by the state. It is estimated that 74% of the population has access to water (MMAyA 2008), however, there are many diverse providers that provide water services. The Ministry for Water and the Environment claim that they that they know of at least 1000 water providers in Bolivia ranging from community

water providers to urban water utilities, but only 27 of these are formally regulated by the state (MMAYA 2012). Meanwhile Agua Sustantable and SENASBA (National Service for the Sustainability of Basic Sanitation Services) contend that there could be over 28,000. (Campanini 2007, SENASBA 2009). While there are no comprehensive figures on all drinking water committees and water systems managed by OTBs (decentralised resident's associations), the state estimates that 1.2 million people living in peri-urban areas rely on these community-level providers in Bolivia (PNSB; 2010). Community providers are formally recognised by the state, and will be supported through a new multi-scaled regulatory framework, and the institutions, which will support and develop small-scale water providers such as DWCs in rural and peri-urban areas.

In this chapter, I demonstrate that while rhetoric supporting community-led water provision colours policy documents such as the PNSB (National plan for water and Sanitation), and new institutions have been forged to develop a range of non-state providers, including community providers, in practice the state has not devolved sufficient control of resources to community-managed providers to improve local water systems. In practice reforms have actually focussed on centralising and securing state control over the water sector, as part of a process of (re)nationalisation (which the current government has embarked on). This chapter contextualizes reforms to recognize the right to water within the broader policy and legislative landscape that has shaped how people access water since the first and only water law, written in 1906.

### **The Water War and the right to water**

The people of Cochabamba became famous as the David that ousted the Goliath of water privatisation, the Bechtel-led *Agua del Tunari* consortium, as a result of the Water War that began in 2000. The private concession was annulled as a result of the protests, and provision returned to the municipal water provider SEMAPA in 2001. The original Water War unfolded on the streets of Cochabamba, but it has carried in the international imagination as a result of the numerous studies, books,



documentaries and feature films that followed. It also became the poster child of the anti privatisation movement that spawned the campaign to recognise an international human right to water. But how did that process unfold, how did a very localised campaign that brought irrigator groups, unions and urban citizens to the street in defence of local water systems and resources, and against the privatisation of water provision, come to be the poster child for the international campaign for a universal human right to water?

One of the first mentions of the human right to water in relation to the Water War occurred in the immediate aftermath. In December 2000, representatives from the Council for Canadians, The interior Alliance and the Assembly of First Nations, Public Services International, The International Forum on Globalization, members of the Coordinadora del Agua, who had been at the centre of the Cochabamba Water War that year, Bolivian social movements, NGOs and members of the public came together for a week of water-related meetings and events in Cochabamba. It was during this meeting that the Cochabamba Declaration was signed. This was the first declaration by a coalition of international water activists that set out the objective that the state should be responsible for guaranteeing the human right to water.

### **The Cochabamba Declaration**

1. Water belongs to the earth and all species and is sacred to life, therefore, the world's water must be conserved, reclaimed and protected for all future generations and its natural patterns respected.
2. Water is a fundamental human right and a public trust to be guarded by all levels of government, therefore, it should not be commodified, privatized or traded for commercial purposes. These rights must be enshrined at all levels of government. In particular, an international treaty must ensure these principles are non-controvertable.
3. Water is best protected by local communities and citizens, who

must be respected as equal partners with governments in the protection and regulation of water. Peoples of the earth are the only vehicle to promote earth democracy and save water." (Broad 2002: 273)

The Cochabamba declaration was made in the presence of activists from the Water War, but what is striking about it is that the Cochabamba declaration is not representative of the core demands expressed in the Water War; specifically protecting community-led water systems in rural and peri-urban areas and building spaces for citizen participation in public utilities, (see Oliver and Lewis 2004).

#### **Box 1. Bolivian water movements**

The Coordinadora del Agua para la vida (Coordinator of Water for Life) brought together trade unionists, irrigator groups, and representatives from community water systems (urban and rural), students and activists in opposition to the privatisation of water services and appropriation of community water systems and sources. Oscar Olivera was one of the principal figureheads of the movement. The Coordinadora went on to support the election of Evo Morales but over time both the movements and figureheads such as Olivera have come to oppose the state. In the decade that followed the Water War the momentum behind the water movement has diminished. The movement has become fragmented, as irrigator and peri-urban potable water groups have organised separately. Some have contended that key groups have been co-opted by the state (III Feria Internacional del Agua 2011), which has undermined the potency of the movement.

Instead, the declaration focused on the role of the state in guaranteeing a universal human right to water, to be implemented by an international treaty. During informal discussions with activists I was told that the human right to water was not one of the principle demands of the Water War. Indeed, during my time in the field I became aware that the campaign to recognize the human right to water was becoming increasingly unpopular amongst water activists in Bolivia who had been involved in the Water War.

This sentiment has gained momentum over time. During the 2012 Red Vida conference that brought Latin American water activists together to discuss the right to water on the continent, Olivera gave a talk in which he summarised some of the key arguments I was hearing informally in Bolivia in opposition to the right to water. He argued that in a country where 67% of provision comes from communal providers (although this figure is contested as discussed in chapter 2) the conceptualisation of water and water governance are going to be different to that of say Uruguay or Mexico. In both rural and urban areas of Bolivia, communal water management means that water cannot belong to anyone nor can anyone have exclusive rights to it. Further he emphasised how Bolivians have never collectively struggled for water to be recognised as a human right. He contended that the human right to water does not take this into account:

We want to establish that the theme of water is related to the theme of power... What has happened in Bolivia is that the human right to water has been constitutionalised... It is a fundamental human right... (but) the right to water has been converted into a method of expropriating these communal forms of water management... Today, what is happening... (the) state is making inventories of water sources and systems, and establishing that the state is now responsible for water provision. And what we will see over the next few months is the expropriation of these water communities. The state is using the idea of the human right to water to do this. But there is resistance from the rural communities and the urban barrios against this.<sup>16</sup>

While I was in the field, I was interested to understand why Bolivian water activists had signed the Cochabamba agreement and been so involved in the meetings around the declaration. I spoke to some activists about this informally and they suggested that the declaration was something that was arranged by the international water activists who travelled to Bolivia soon after the Water War. But furthermore we must recognise that the idea of the right to water in 2000, as set out in the Cochabamba Declaration was just a seedling for the campaign to recognise the human

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<sup>16</sup> Oscar Olivera, Red Vida Conference Mexico City, October 15th 2012

right to water and the global water justice movement. No one could have foreseen or predicted the trajectory that the campaign would take. Over time, Bolivians have distanced themselves from the campaign for, and idea of, the right to water that has emerged. It is therefore not necessarily that Bolivian social movement leaders and activists were, or are, opposed to the idea of the human right to water. However, they are concerned that the discourse can be used by states and international NGOs to shape how local communities access and provide water.

In June 2011, 11 years on from the Cochabamba declaration, Bolivian social movements, DWC leaders, NGOs and activists gathered in Cochabamba to discuss the idea of the human right to water and its implications for legislation and policy. Here it was suggested that the right to water should mean that everyone has access to clean water. There are certain political and social dynamics that have to be considered as states endeavour to recognise the human right to water. Those present felt that the national reforms around the right to water did not go far enough to recognise these dynamics. During this meeting it was agreed that water should not be commodified and that water services should not be privatised; something that the Bolivian state only partially prohibits in practice (and will be discussed later in this chapter). Furthermore, the consensus was that communities should have the right to provide their own water services according to collective water systems, and that the reforms are potential to undermining and co-opting the numerous informal collective providers that exist in Bolivia. While the value of rights was recognised, individual human rights are difficult to implement in a country where collective rights are prevalent in indigenous communities. Meanwhile historically, the state's attempts to sanction collective rights can be excluding and lead to conflict in rural regions amongst irrigator communities, and has been denounced (Bolpress 2009) .

## **Bolivia and the international campaign to recognise the right to water**

Despite the concerns of some local social movements and activists about the applicability of the human right to water in the Bolivian context, several Bolivian NGOs and politicians have played a pivotal role in the international campaign to recognize the human right to water. This has included representatives of the NGO Fundacion Solon that has links to international NGOs, the soon to become president, Evo Morales, and representatives of FEDECOR amongst others. These people have regularly participated in the early alternative global water forums, and the human right to water has been one of the subjects under discussion here. The first Alternative International Water Forum was held in Kyoto in 2003 to draw attention to the shortcomings of the official World Water Forum held simultaneously in another part of the city. Discussions focused on the struggle to recognize the human right to water, but also de-privatizing the water sector, the impacts of large-scale infrastructure such as dams and the benefits of adopting local, participatory, democratic forms of water management (Bakker 2007). These ideas were then developed in the alternative Water Forum in Mexico in 2006 and attracted water activists from all over the world. During this meeting the idea of the human right to water was one strand that was developed by some participants, Elizabeth Peredo, director of the Fundacion Solon explains.

We as activists with the leaders of organisations, such as Evo Morales, we went to all the water forums. We became part of an international current of activism. We didn't know them before, but in 2000 when the Water War erupted they came to us. This led to a more collective construction of the idea of the human right to water.<sup>17</sup>

Several Bolivian activists and NGOs then became key actors in an alliance of water activists and other so called progressive governments such as Venezuela. This alliance that was forged in the Istanbul Forum in 2009 went on to focus more centrally on lobbying the UN to recognize the human right to water. The momentum continued, and it was Pablo Solon,

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<sup>17</sup> Elizabeth Peredo Director Fundacion Solon, Cochabamba, 22 October 2010.

ex director of the Fundacion Solon and Bolivian ambassador to the UN, who presented a resolution to the United Nations General Assembly on July 28<sup>th</sup>, 2010, which then led to declaration of the Human Right to water and Sanitation by the UN.

Bolivia thus played a strategic role in the development of the global campaign to recognise the human right to water which would also have deep felt implications for Bolivia's international reputation. On the one hand Bolivia provided the movement with a myth by which the international water justice movement defines itself. On the other, the campaign lent its self to enhancing the international image and identity created by President Evo Morales as protector of human rights, indigenous rights, and campaigner for climate justice.

### **Contesting rights**

However, the campaign that eventually led to the resolution that was passed in the UNGA, was something quite different to the struggle that manifested itself on the streets of Cochabamba during the Water War. Olivera and Gomez describe how,

...the Cochabamba Water War in 2000 was not only a response to aggression against life itself, but also one in which the old and the new social technology were embodied in a resounding "no" that affirmed our potential to do things ourselves and our own way... (Olivera and Gomez, 2006: 2)

Here Olivera and Gomez contend that the Water War was never a campaign to call for the state to provide water; instead the communities that participated struggled to defend their water systems against the privatisation of water services and commodification of water; it was an outright rejection of proscriptive reforms advocated under neoliberalism that threatened local ways of life. For Olivera and Gomez, the idea of the right to water is not dissimilar to a human rights-based approach to water provision;

...It is assumed that 'to provide us with water' (and other 'rights') is economically sustainable for the state, local governments, and businesses, and for the maintenance of the bureaucracy...

However, those of us in Bolivia, due to our government's historically negation of us, are not able to pay our taxes; we are materially incapable of complying with the laws that were written not for us, but over us. For us, the suit-coat of "citizenship" is too tight a fit. (Olivera and Gomez 2006: 3)

Olivera and Gomez understand socio-economic rights as being dependent on strong relationships between all citizens and the state, and argue that this relationship has never materialized in Bolivia. Instead, indigenous, peri-urban and rural communities have frequently been let down and marginalized by the state. A state-sanctioned right to water based on ideas of citizenship is perceived as being incompatible with commons and communally managed water provision which exists in Bolivia.

Olivera and Gomez's words are symptomatic of academics and activists in Bolivia that seek to defend communal water rights, uses and customs against individual 'rights' to water and the commodification of water (Bolpress 2009; Crespo 2010). This movement reflects the demands of the Water War, and has over time distanced itself from national and international endeavours to recognise the right to water. Some activists fear that recognising the human right to water could affect collective forms of organising for water provision, and that rights-based approaches do not have the capacity to ensure that the water needs of the most marginalised communities are met. Oscar Olivera explains:

The human right to water, has nothing to do with the social movements or the commons, (it) is actually in contradiction to the struggles of the social movements who frame water as part of the common good.<sup>18</sup>

Furthermore, for many Bolivian activists the right to water is actually part of a broader state-led approach that is focussed on consolidating control over a fragmented and complicated water sector. It does not embody a departure from the trajectories of other global water policies advocated in the past, including under neoliberalism, and thus does not offer a solution

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<sup>18</sup> Oscar Olivera, Cochabamba, May 15th 2010

to water provision that really tackles the deep set social and physical inequalities that plague countries, regions and cities. In fact it has the potential to reinforce those inequalities. Carlos Crespo, water activist and professor of sociology at the city state university in Cochabamba develops this point as part of an on-going discourse that reveals the discontent that Bolivians feel towards the proscriptive global water policies that shape local water governance.

“The right to water is not emancipatory. It serves to legitimise this pro-poor focus on water, that has been advocated through international cooperation, and so there is all this focus on the management of water that comes to bring technology and processes that are orientated towards the most poor, and it has been sold to us by the World Bank, by international funding and by some international activists. And they plant this idea and what it brings us is this distinction between the services for the poor and the established ones for the rich.”<sup>19</sup>

In Bolivia, there have been no struggles aiming at securing access to finite sums of water for individuals, as there have been elsewhere. Instead, concerns that were ignited during the Water War about the impact of neoliberal reforms to the water sector on local systems of water governance have proliferated and persist as a result of more recent reforms based on the right to water. The concerns that some Bolivians have with the idea of the human right to water are indicative of some of the broader challenges in adopting a human rights approach to water provision in the global south. In regions where the state has failed to provide water, and alternative systems of water provision have emerged, there is an unwillingness to give up that system of provision, and a ‘*way of doing things*’, in favour of either a state sanctioned right that may not materialize, or to a private company that monopolises water sources and provision. This is indicative of a culture which lacks strong state-citizen bonds and where the state is traditionally unable to guarantee fundamental security, rights and services to its citizens, who have traditionally had to self organise on a communal basis. New policy and

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<sup>19</sup> Carlos Crespo, Cochabamba, February 10th 2010



legal frameworks, and institutions both in the shape of privatization or state led provision are ultimately indicative of the re-organisation of the sector which undermines communal systems of provision and power. The fear amongst Bolivian activists and non-state providers, are that while reforms, both private and state driven, set out to improve access to water they involve the re-organisation and re-distribution of power.

The following section explores how the notion of the right to water has developed in Bolivia and how it has shaped reforms to the water sector. In doing so I set how and why it has been contested by activists and communal water providers.

### **Reforming the national sector**

The election of Evo Morales in 2006 heralded a step change in Bolivian politics. After almost two decades of neoliberal governments, president Morales and the movement for Socialism began overhauling the state according to a leftist ideology, often termed 'post-neoliberal' political ideology (as discussed in the previous chapter). The water sector was revamped both institutionally and legislatively almost immediately. A Ministry for Water was established and a new Minister for Water put at its helm. Further, a new institutionality to regulate and develop the capacity of water providers was put in place.

The constitutional and legislative foundations to underpin these reforms were being undertaken almost retrospectively. This began with the development of constitutional articles relating to water that were established by the Constituents' Assembly (CA), and continued with legislative reform, which is still on-going. The CA had been a demand of Bolivian indigenous social movements and organisations for several decades, and Evo Morales granted its establishment as one of his election pledges. The Assembly was tasked with developing an inclusive constitution that would be the blueprint for the Morales Administration. While this assembly was led by social movements and organisations there have been subsequent critiques levelled at the processes behind

the CA, specifically that the process was closed, undemocratic, and that some parts of the text were subject to substantive change (see Reglasky 2009 and Webber 2011 for further discussion of this). The CA was made up of 21 Commissions, and proposals and discussions around water were made in the Commission for Water Resources and Electricity. Elected representatives from every part of the country, alongside representatives from diverse unions, social movements and organisations led the discussions, and ultimately had to consider and consolidate the 237 proposals that were submitted. At the core of the discussions were debates around the recognition and protection of collective rights, usufruct rights and rights to manage water resources according to collective uses and customs of diverse rural, peri-urban and urban communities (Campanini, Rios et al. 2008). Further, the challenge of implementing a universal and equal right to water for both the productive and reproductive needs of the population as a whole was debated and proved controversial. A representative from the NGO Agua Sustentable who observed and facilitated the discussions recalled some of the debates which reflected the conflict that existed between sectors around rights and access to water sources.

“The indigenous social movements, to begin with, demanded the possession of all the water on their territory. I always remember the process.... We had managed to arrange a meeting where everyone was present, because it was very important that we didn't meet according to sectors, for example only the peasant groups or only the urban groups, because water flows, it flows through places and peoples, and involves different populations and communities... There were representatives from migrant peri-urban barrios too. So when the indigenous social movements said they should have the right to all the water on their territories, the urban peri-urban populations asked, “Who here doesn't originally come from a rural or indigenous territory? Because as a result of migration we are now living in the cities, we have not necessarily left our communities and ancestry, but we still need water, so what will do, buy water from you, from our families? It is the blood of pachamama (mother earth), how can you sell it to us?” This was at central core of our discussions. These discussions were so rich.<sup>20</sup>

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<sup>20</sup> Agua Sustentable employee, Cochabamba, November 23rd 2010

This recollection highlights the diverse claims and ideas of indigeneity that formed the constitutional articles relating to water. Indigenous groups have and continue to defend their water rights and usufruct rights to water sources in the face of expanding industries such as the extractives (Mamani M. 2006; Moran 2009) or in the face of demands by water utilities. However, during AC meetings it was recognised that cities and peri-urban areas expand, often as a result of indigenous migration from rural areas. The recognition and acceptance of this link between rural, urban and peri-urban underpinned some of the arguments that advocated the need for a more joined up approach to water provision. These arguments sought to look beyond local water rights and build a more integrated vision of water provision for Bolivia, as opposed to for the community alone.

As a result of the discussions, the participants<sup>21</sup> in the sessions developed and agreed upon a list of ten guiding principles for the water sector. These were to form the basis of the constitutional articles relating to water. These points reveal a commitment to recognising and protecting local water systems, and protecting local water sources against contamination and over-exploitation by industry, but also to establish and guarantee the role of the state as guarantor of the right to water. They are as follows:

1. Recognise the social, cultural and environmental functions of water
2. Recognise the state's role in promoting water on the basis of solidarity, reciprocity, equality, diversity and sustainability
3. Acknowledge the state as guarantor for prioritised use of water for life for all its inhabitants
4. Respect for the uses and customs of communities, local authorities, indigenous peasant organisations, all Bolivians with regards to the right to and management of water and a new law will establish the conditions and limitations of this

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<sup>21</sup> Diverse social movements participated including several representing irrigator communities, peri-urban water committees and peasant unions amongst others.

5. Advocate the management of river basins for food security according to the uses and customs of communities
6. Water and sanitation as a basic service that is the responsibility of the state. Provision will not be for profit and according to national policy. The new law will frame the service of provision
7. Fossil, glacial, subterranean, mineral, medicinal and other waters constitute a resource of the Bolivian people. Conservation, protection, preservation and sustainable management of these waters as a national priority.
8. Before the development of any industrial activities such as mining, the government must consult with indigenous communities, peasant communities and social organisations in the area.
9. Water resources as the property and domain of the Bolivian people, they cannot be sold, privatised, made concessionary or exported. The state will regulate, protect and plan adequately and sustainably with social participation.
10. The national interest must be prioritised over any commercial interests when it comes to water resources.

(Campanini, Rios et al. 2008)

These statements would then inform the nine articles for the chapter on water resources. The rationale behind the CA was that the Bolivian people would re-write a constitution for The Plurinational State of Bolivia. There were various elements of the broader constitution, which the CA could not reach agreement over, leading to unrest and violence. The president and the government ultimately took control of the process and drafted the final constitution in Oruro. The undemocratic nature of this decision has attracted some criticism (Webber, 2011), and the government has responded that the constitution was revised and put out to review, and ultimately was approved via referendum.

For the purposes of this thesis I have categorised the key articles relating to water according to 8 themes.

1. Water is a fundamental right for life to be guaranteed by the state

(Articles 16, 20, 373, 374)

2. All natural resources belong to the Bolivian people (Article 349)
  3. It is the state's responsibility to ensure every Bolivian's right to water as a basic service, through public, mixed, cooperative or communal water providers (Article 20).
  4. It is the state's responsibility to protect water sources against contamination and to plan for sustainable use of all water sources with social participation (Articles 342, 374, 376)
  5. Recognition and respect for traditional uses and customs around water (Articles 374, 375)
  6. Water concession and the privatization of water services is prohibited (Articles 20, 373)
  7. Regulation and management of water resources with social participation (Articles 374)
  8. Protection of water sources from free trade agreements (Article 77)
- (Estado Plurinacional de Bolivia 2008)

The articles present a framework for the overhaul of the water sector, although many of these principles were already framing policy and the state's approach. In sum reforms were based on principles of anti-privatisation, the (re)nationalisation of water provision, a universal right to water, and the protection of communal water providers. A public system is envisioned with spaces for citizen participation in urban utilities, but which incorporated alternative community providers and which recognises the social and cultural significance therein.

The articles that emerged relating to water reveal more nuanced contradictions. The articles establish the role of the state as being the guarantor of the right to water, but also promise to recognise and respect the uses and customs of communal water systems. The CPE boldly declares the prohibition of privatisation of water services, thus embodying the anti-privatisation sentiments rooted in the Water War, which is still so important to Bolivian social movements and organisations. This assertion is undermined somewhat as mixed service providers, which can include

the private sector, are allowed. Baer (2011) suggests that this was included in an attempt to appease international donors. Finally, as outlined by Raul Prada (2010), reforms to recognise human rights and collective rights are set against a backdrop of a country that is industrialising (ibid:110), and in the process of nationalising and expanding the extractive industries to facilitate a redistributive economic policy. The CPE does not tackle the potential conflicts of interests between indigenous and collective water systems and the water needs of big industries. Further, there are constitutional articles and rights that were designed to protect the rights of communities to water sources, in light of development initiatives and the expansion of the extractives. One example is the right to previous consultation. In practice there are numerous examples of how the rights of industry to water resources have been prioritised over those of local communities. (Bustamante, Crespo et al. 2011)

### **Developing a legal framework for the sector**

While the articles relating to water in the constitution have been developed into a key component of the National Plan for Development, and a more detailed outline of reform to the water sector has been set out in the National Plan for Water and Sanitation, the difficulty has been in developing and passing a water law for the sector. Historically, long before the election of Evo Morales over 30 proposals for a new water law have been tabled, but there has been insufficient political will to develop a water law.

The theme of a water framework has been discussed for so many years, that few remember exactly when it began... various proposals, projects and final versions of laws have been drafted but none have been passed (Bustamante 2011)

Since 2001, there has been a push by the NGOs and social movements that developed in the wake of the Water War to organise consultations on a new water law. The problems with these consultations is that they have tended to target distinctive groups of actors in the water sector, for example the irrigators, the potable water providers and the indigenous

social movements, each of which have developed their own respective proposals for a new water law. While I was in the field I attended 3 consultations on the new water law, each of which was undertaken according to sector. Consequently the proposals tend to reflect the needs of one sector.

Since 2006 there has been a renewed effort on the part of the state, with the support of NGOs and social movements, to undertake consultations with communal water providers and indigenous movements for a new water law. I met with a consultant, Juan<sup>22</sup>, who worked with the Ministry for Water and the Environment as part of small technical committee to consult with different groups and develop proposals for a new water law and to develop a legal framework around the right to water in Bolivia. He acknowledged the challenges facing the sector but was hopeful that there is sufficient political will for a water law to be passed.

We (as a sector) are paralysed by old laws... but the current political climate makes it a good time to formulate and create a new water law... the political will to pass this law is strong.<sup>23</sup>

Some social movements have come together to present proposals for a new water law. These have tended to reproduce constitutional articles, and the pre-existing institutional frameworks that have been developed by the state form the basis, with the focus remaining on guaranteeing water rights and developing the right to water. Some social movements from the potable water sector and irrigator sector developed a proposal for a new water law in January 2011. However, it was somewhat vague and there has been no attempt to define the right to water or develop a justiciable right to water<sup>24</sup>. This might be because the human right to water was never a demand that came from the social movements, or social organisations such as ASICSUD-EPSAS, who instead have focussed more on improving access and community-management.

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<sup>22</sup> Pseudonym

<sup>23</sup> Consultant for MMAYA on Water Law, La Paz, 16th November 2010

<sup>24</sup> This proposal was co authored by over 50 representative groups from irrigator and drinking water organisations in Bolivia. It can be viewed at <http://www.fobomade.org.bo/public/uploads/docs/1122.pdf>

There are many challenges that hamper the development of a new water law. A Bolivian water law must encompass the diverse and complex articles relating to water provision in the constitution. The central tension is how a universal right to water can be legislated for, which also incorporates the usufruct rights of communities, or the rights of communities to provide water. Further, as industry, agriculture and the extractives are all sectors that have been prioritised as central to the future economic development of Bolivia, the legislative framework has to reconcile the industrial sector with the potable water sector and the collective water rights of indigenous communities. To date there has been a series of consultations with potable water providers (community-level providers and the cooperatives), social movements, and irrigator groups, but discussions have tended to stall at discussion around who has priority use or access; those seeking water for productive or domestic uses. This is an age-old sticking point in Bolivia, and a question that is difficult to reconcile through consultations that are undertaken sector by sector. Furthermore, the state's capacity to consult with all groups, and to organise cross-sectoral consultations is limited, and so they have been working with the Bolivian NGO Agua Sustentable, an NGO that has been undertaking independent consultations on the water law in departments across the country. Juan, who had been coordinating these events explained,

We don't have enough money to hold the types of workshops that the people are accustomed to here today. NGOs have the money to hold big expensive workshops, and this is what people have come to expect, we do not have that sort of money.<sup>25</sup>

It has also become increasingly difficult to secure the participation of all social movements and organisations. The CPE guaranteed Bolivians a range of socio-economic rights, many of which require the development of new laws based on consultations with social movements and indigenous groups. Social movements have become prone to consultation fatigue. Juan explains,

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<sup>25</sup> Consultant for MMAYA on Water Law, La Paz, 16th November 2010



The social movements are being asked to participate in consultations for many laws at the moment...(what) we would like to do is bring them together at least with some representatives so that they could discuss the issue of water.<sup>26</sup>

The focus has been on engaging with civil society groups and social movements, or community-level providers. Consultations have yet to extend to the biggest water users and polluters, agro-industry and mining. This is indicative of the schism between the two contradictory development paradigms that define Evo Morales' government, *Vivir Bien* (living well) and *El Gran Salto Industrial* (The great industrial leap). *Vivir Bien*<sup>27</sup> is an alternative Bolivian development discourse that seeks to harmonize human development while protecting the environment by incorporating indigenous ideologies and practice. As outlined in chapter 3, this could be framed as a normative alternative to sustainable development that has been adopted in Bolivia and Ecuador, but which is critiqued for building on capitalist conceptualisations of economic growth (Gudynas 2011). The idea is premised on the notion of living *well* as opposed to living *better*, which is framed as the underlying premise of capitalist systems. *Vivir bien* is a broad concept that continues to be moulded and defined but it is a component of the overarching objective of the government's 5-year Water and Sanitation Plan

The state aims to improve and extend sustainable water and sanitation services, to implement the human right to safe water and sanitation services, thus fulfilling the government's commitment to change so that living well can be achieved for all people. (MMAyA 2008)

*Vivir Bien* is compromised by the other core development paradigm in the National Plan for Development, which is *El Gran Salto Industrial*. and the idea of Andean Capitalism, specifically the expansion and nationalisation of the extractive industries, is core to the economic growth and development of the country. While the state has a new constitution that protects indigenous and human rights, and is building an alternative development paradigm of *Vivir Bien*, it is still inherently tied to the

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<sup>26</sup> Consultant for MMAyA on Water Law, La Paz, 16th November 2010

<sup>27</sup> Living Well

international economy. In order for the state to be able to pursue its redistributive economic policy, to fund the expansion of basic services and tackle poverty, Evo Morales and his government argue that a further 50 years of Andean Capitalism must unfold in Bolivia (Garcia Linera 2006). The contradictions between *El Gran Salto Industrial* and *Vivir Bien* are yet to be reconciled, and in practice certain ministries, departments and individuals within the state tend to be based around *Vivir Bien* or *El Gran Salto Industrial*, which exacerbates the clash. As an example this is pronounced between the Ministry for Mining and Hydrocarbons and the Ministry for Water and the Environment. The key role that the extractives play in the economic development of the state means that they carry a lot of weight in terms of dictating state policy. Activists are concerned that legislation will continue to protect the interests of big businesses and industry, as has been the case to date. During an interview with an employee of *Collectivo Casa*, an NGO that supports social movements to tackle environmental injustices, I was told that the delay in the development of a new water law could be a consequence of deliberate heel dragging. The employee explained that it was widely believed that the new water law could only be passed once the mining and extractives law is passed, guaranteeing and safeguarding water use for the sector<sup>28</sup>.

There are further practical reasons why it has taken time for the water law to be finalised. The consultant in charge of coordinating consultations for a new water law explained that the Ministry for Water and the Environment does not have detailed geographical, hydrological and climatic information for the country. Bolivia is often highlighted as one of the countries that is most vulnerable to climate change (Plurinational State of Bolivia 2010). The international press have focussed on the melting of the glaciers to the north of the capitol La Paz, which have created some of the world's first 'climate migrants' (Vidal 2011), while the droughts in Pasorapa (a farming region eight hours south of Cochabamba) that have seriously affected cattle farmers in the region

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<sup>28</sup> *Collectivo Casa* employee, Oruro, August 5th 2010

have drawn similar attention. In practice there is little long-term data that the state can draw on to assess the extent of the problem. As explained by the consultant on the new water law,

We haven't fully integrated the sectors and we also need hydrological information and projections for climatic change, these are some of the biggest challenges<sup>29</sup>.

Without these it is difficult to develop a legislative framework that reflects the water needs of the country.

The right to water in Bolivia is a long way off being a justicable right, and perhaps it never will be. There is evidently opposition and certain obstacles to recognising individual rights, and instead the right to water in Bolivia might be better understood as a commitment by the state to improve access to water and water provision across the board. The consultant explained that there had not been any discussions relating to daily allowances for the poorest like those that unfolded in South Africa. Instead the focus was on developing a legislative framework that incorporates communal providers in peri-urban and rural regions where public utilities do not provide. Reforms then focus their energies on supporting their development so that they are better placed to provide water to the communities they serve. The right to water in Bolivia is thus better understood as a framing discourse focussed on recognising the role of communal providers, while the on-going consultations around its legal implications highlight some of the complexities in legislating for a universal human right where diverse sectors have become entrenched themselves and sought to protect their water rights over time. Without comprehensive legislation, the newly created institutions that are part of, or decentralised from, the MMAYA have driven reforms to the sector and developed projects to improve access to water in peri-urban areas, and to develop communal providers.

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<sup>29</sup> Consultant for MMAYA on Water Law, La Paz, 16th November 2010

### **Developing policy frameworks**

There are two principle documents that have developed the articles in the constitution relating to water and guided reforms to the water sector. The PND (National Plan for Development) and PNSB (National Plan for Water and Sanitation). The PND (2006) outlines the long-term plan(s) for social and economic development in Bolivia. The PNSB sets out the three core pillars by which the water sector will be reformed.

In order to reach these objectives the state outlines three core strategies:

#### **1. Re-nationalizing water**

The state understands that by bringing water back into the public domain it is better placed to ensure equitable access, and to protect and plan against contamination and over-exploitation. This is a commitment to prioritizing the needs of potable water users and irrigators, protecting the local environment and also traditional forms, rights, uses and customs around water management. This will be made possible by increased investment in the sector and an explicit commitment to improving access to water in peri-urban areas. This increased funding is all set to come from foreign donors.

#### **2. Building Environmental Integrity**

The second strategy demonstrates a commitment to protecting the environmental integrity of water resources, namely through the development of adequate sanitation systems and the treatment of wastewater.

#### **3. Developing a legal and regulatory framework to fit the water sector.**

By building institutional and technical support for all water providers in Bolivia, and with the inclusion and formalization of many different types of diverse water providers, the PND makes a commitment to strengthening all providers and the sector as a whole. Legitimizing all water providers also means capacity building and eventually

regulating providers, as the state endeavours to build equal access, and fair tariffs across the board.

While the PNSB recognizes that communal water systems can be precarious because water supplies can be subject to depletion or contamination, or because local infrastructure is fragile, the PNSB outlines an approach that sets out to capacity build and incorporate communal water systems. The PNSB states that the participation of the population in the water sector is required to ensure and promote efficiency and transparency in the sector. The PNSB is looking to build a very public system. In urban centres this means making public companies such as SEMAPA more accountable to their users, and making spaces for participation (Crespo and Spronk 2007). Meanwhile, in peri-urban and rural regions communities tend to participate not only in the management of their water systems, but also more directly in the development and operation of their systems. In practice this means that the state is encouraging broad citizen participation in the water sector, and formalizing customary rights and collective systems, thus developing the system of rights and registries that was created in the wake of the Water War.

### **(Re) nationalising water in Bolivia**

In the following pages I demonstrate that Bolivia is a long way off developing a justiciable human right to water, in fact it is so contested that in practice the idea of the right to water is better understood as a banner under which post 2006 reforms have been implemented. The reforms have been threefold and include: (re)nationalising and centralising state control over water provision, reforming legislation and regulation, and institutional development and reform. I explore each of these in turn.

The private sector never got a good grip on the Cochabamba concession as a result of the Water War, while the La Paz-El Alto concession was terminated in 2005. In that sense urban water provision was never universally privatised in Bolivia. However, one might argue that water

provision has never been universally public in Bolivia, as a significant proportion of water provision comes from communal or informal water providers. Negotiating state control of the Bolivian water sector is particularly difficult because of the vast and varied informal providers that have emerged in the light of the failure of the state to develop and ensure provision. The state has never centralised control over water providers, neither has it successfully regulated or incorporated informal providers. There has never been an integrated Bolivian waterscape, instead it is fragmented and disjointed. Water provision has been controlled by landlords and mine owners, communities and cooperatives, and municipal utilities, but never by the state. Controlling natural resources, particularly access to water is part of nation building. Peru and Ecuador have built legislative frameworks that have incorporated informal and indigenous providers, based on the liberal equality myth and the assumption that a *“modern water society could be legally engineered”* (Boelens, 2008: 314). While Ecuador and Peru’s reforms have not been straightforward, the Bolivian water sector has never formally recognised or even partially assimilated the numerous informal providers under neoliberal ideologies of equality (Roth, Boelens et al. 2005), as has been the case in other Andean countries.

The Bolivian Constitution has enshrined the human right to water and sanitation. In practice this is a massive task because water and sanitation coverage in Bolivia is poor. As water cannot be privatised, water provision is now the responsibility of the state, but can be provided through public utilities, cooperatives, and community providers, like drinking water committees or mixed entities. These are collectively known as water and sanitation service providers (EPSAS). The state estimates that there are over 28,000 small-scale providers in the country (SENASBA 2009) in the country, but only 27 public companies are, in effect, regulated (IAB proposal: 5).

Institutional reforms to the sector are based on the constitutional commitment to state led reform and regulation through the many diverse

established water providers. The Ministry for Water and the Environment (MMAYA) has been established to coordinate the sector. “The Authority for the Fiscalisation of and Social Control over Drinking Water and Sanitation” (AAPS) oversees regulation. The National Service for the Sustainability of Basic Sanitation Services (SENASBA) is responsible for ensuring the sustainability of all water providers through community development strategies and technical assistance. The Environment and Water Executing Agency (EMAGUA) and the National Productive and Social Investment Fund (FPS) oversee the implementation of programs and projects formulated by the MMAYA.

In practice water provision is managed at the level of the municipality. Municipalities can provide water through public utilities. But as is the case in Cochabamba community providers such as the DWCs, once formally recognised as EPSAS, can provide water. The Ministry for Water and the Environment along with institutions such as SENASBA and AAPS are in place to support the municipalities. To date the institutional groundwork for these reforms has been undertaken. The state has recently received a \$78 million dollar loan from the Inter American Development Bank to develop and consolidate this model (MMAYA 2012).

### **Establishing the Ministry and the role of NGOs**

The government has had to tread lightly so as not to enter into conflict with the powerful water movements and activists that developed in the wake of the numerous Water Wars that unfolded during the 2000s (discussed in chapter 3). The first reform undertaken was the establishment of the Ministry for Water, and the appointment of a Minister for Water in an attempt to centralise control over a fragmented water sector. This was also, however, in response to a demand that had emanated from some of the social movements, who demanded a Ministry for Water so that there was one sole department that would address the challenges facing the Bolivian water sector (Campanini 2007). Before 2006, the water sector had come under the jurisdiction of the Vice Ministry for Basic Services. A senior employee for the NGO Agua

Sustentable describes the reforms to the water sector that followed the election of Evo Morales, “At the change of government, the MAS entered and began the process of taking *command* of the sector...”<sup>30</sup>

Reforms unfolded in a way that recognised and consolidated the role that NGOs, social organisations and communal providers had played in sector in the absence of strong public or private providers. The employee continues,

In Bolivia, civil society plays a significant role in the management of water, so ideas around the human right to water have to incorporate community irrigation systems, collective providers etc. In other countries where there isn't collective management, where water is completely public, people see water as just a basic service. Here water is much more than just a basic service.<sup>31</sup>

The Ministry for Water was the first of its kind in Latin America. The Ministry brought water back into the public realm, moving away from the neoliberal streamlined state. However, it endeavoured to demonstrate that it was not another bureaucracy, and would reflect the demands of the social movements and civil society in Bolivia. The first Minister for Water was a shrewd appointment named Abel Mamani, and this showed willingness on the part of the state to include the leaders and activists in the extensive reforms to the water sector. Mamani had led the water movements in El Alto. His appointment could be understood as being characteristic of the co-option of social movement leaders by the state since 2006. The Ministry for Water has been developed with extensive support of one NGO in particular. Agua Sustentable is an NGO that has been working to support local water systems and also with the development of sectoral legislation such as the River Law of 2004. The NGO rose to prominence in the years following the Water War receiving funding from a host of foreign donors including Oxfam and IDRC. It now occupies a particular niche, where they have worked closely with communities on the ground, but have pragmatically supported state

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<sup>30</sup> Senior Agua Sustentable employee, Cochabamba, November 7th 2010

<sup>31</sup> Senior Agua Sustentable employee, Cochabamba, November 7th 2010



efforts to reform the water sector. By working with Agua Sustentable the Ministry had links to social movements and organisations such as the irrigators, but also has the expertise of individuals who have been supporting the development of the water sector since the early 2000s. The NGO has successfully straddled both worlds. An employee explains,

The Ministry of Water was the result of social demands and processes, that were met on the election of the MAS, as the Ministry (for Water) evolved, we (Agua Sustentable) were able to help in its design and development... as a result we have been able to help in different instances where there has been a social demand for change within the water sector... for example the development of the PNSB (National plan for Basic Sanitation) and SENASBA (National service for the sustainability of water and sanitation services).<sup>32</sup>

The NGO has thus been central to the development of the new institutionality that has been developed around water provision in Bolivia.

Rene Orellana, the ex-director of Agua Sustentable went on to be appointed as Minister for Water in 2008 and was arguably the most dynamic minister of the MMAYA until the time of writing. Rene Orellana was a key driving force behind many of the policies designed to develop and capacity build water committees in the peri-urban southern zone. His capacity to channel funding to peri-urban water committees and build links with drinking water committees in the Zona Sur was not continued by his successors. This is discussed in more detail in chapters 6 and 7.

Agua Sustentable's role in the development of new institutions, and as shall be demonstrated, policies and legislation is significant. Evo Morales' election has evidently not marked a disjuncture with the water policies and politics of the past. There has been significant continuity in process and actors who have been shaping water provision in Bolivia since 2000. Agua Sustentable has pragmatically positioned its self to be able to oversee many of the reforms to the water sector since the Water War. It is one of the few NGOs that has survived the transition from the

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<sup>32</sup> Senior Agua Sustentable employee, Cochabamba, November 7th 2010

neoliberal governments of the past to the leftist MAS government since 2006.

### **Forging new water institutions**

As outlined previously, re-nationalising the water sector has involved centralising its control, creating a new institutionality based out of, and around, the MMAYA, but what has this meant in practice? Public municipal utilities tend to continue to be the main providers in urban areas, but control over and planning for the sector is located within the MMAYA. Eventually some power will be devolved to departments, but this process has not been finalised yet. There are three core departments within the MMAYA. They are; planning for potable water and sanitation, water resources, rivers and the environment, and biodiversity and climate change. There are then a series of decentralized organisations responsible for projects such as capacity building, the Misicuni dam project and regulation amongst others. As the sector continues to exist without a comprehensive water law, the new water institutions that have been established have become de-facto legislators. This section will focus down to explore the function of two newly created entities: the capacity builder SENASBA and the regulator AAPS. These are two decentralized organizations that have been established to support and regulate all water providers including DWCs across the country.

SENASBA (National Service for Sustainable Water and Sanitation Services) was established in 2008, as a public institution decentralized from the MMAYA. Its objective is to support the development of more sustainable water providers across Bolivia. It is estimated that there are over 28,000 formal and informal water and/or sanitation providers across the country (SENASBA, 2009), and SENASBA is tasked with capacity building all water providers in rural, urban and peri-urban settings, from the smallest community-level potable water providers to municipality-wide public utilities such as SEMAPA. Rene Orellana, the ex Minister for Water and the Environment explains:

The many diverse water providers of Bolivia, require investment in infrastructure from the state but also administrative capacity building so that a better service can be provided, we are referring to technical capacity building, financing and technology, so that services can be managed well. (SENASBA: 2010)

Instead of excluding communal providers, or allowing them to be subsumed by larger providers, SENASBA allows the state to pursue a more inclusive policy. An Agua Sustentable employee explains how the work of SENASBA is linked to the reforms that began to protect communal water providers in the wake of the Water War;

There were many discussion and interactions between the state and social organizations between 2001 and 2006. The central debate was about regulation, regulation was interpreted to be to punitive. So an alternative approach to regulation was put forward, which advocated communitarian management and required a different type of regulation, less punitive and more supportive, an important element of this was technical and capacity building support. This was where two processes joined the discussions around Law 2066<sup>33</sup> that began in 2001, and the ideas of the new government.<sup>34</sup>

SENASBA is not a completely new concept. The previous government had appointed a private organization called FUNDASAB to undertake technical and capacity building work with small-scale providers that had been legitimized by reforms to licence and register small-scale rural and urban water providers. FUNDASAB was one of the foundations and private enterprises that had been supporting basic service provision up until 2006. While the state recognized the role of communal providers, support and capacity building was undertaken by the private sector and NGOs<sup>35</sup>. SENASBA is a decentralized public body and has a broader remit. The overarching objective of SENASBA is to build sustainable water providers that provide an efficient service of sufficient quality and quantity. It works with providers that operate on all scales, from small rural and peri-urban EPSAs (Small-scale water and sanitation providers), to municipal utility companies such as SEMAPA. While the organisation is

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<sup>33</sup> Law 2066 was established to protect water systems and rights following the Cochabamba Water War.

<sup>34</sup> Senior Agua Sustentable employee, Cochabamba, November 7th 2010

<sup>35</sup> SENASBA employee, La Paz, November 16th 2010

in its infancy its focus is building the institutional, technical and financial sustainability of water providers. It provides technical assistance, it works with providers to strengthen them as institutions, it provides administrative and financial capacity building training, and also undertakes community-level capacity building exercises. SENASBA also coordinates research into the development of alternative technologies for water providers on behalf of the state, provides education on sanitation and distributes communication on the water sector (SENASBA 2012). Its future remit will be to foster community development of water systems in rural and peri-urban areas, suggesting that the state envisions more community managed water systems to expand access to water (MMAYA 2012).

SENASBA is the first organisation of its kind in Latin America. Its specific role is to enhance the sustainability of all water providers in the region. However, limited financial and human resources compromise its capacity. Principally, and as outlined earlier in this chapter there is limited data on how many small-scale water providers exist in Bolivia and the service they provide. SENASBA are therefore dealing with an unknown quantity. It has limited legitimacy in communities that rely on informal water providers, further it does not, and cannot be expected to, understand the diverse social and cultural dynamics that have forged the numerous water providers that exist in Bolivia. One organisation has been tasked with engaging with hundred of water providers, some of which are not even on the government's radar. Further, SENASBA has limited human and financial resources for the task at hand. It has to employ diverse methods to overcome the scale of the challenge that it faces. In practice, SENASBA has come to rely on a platform of small scale-water providers such as ASICASUDD-EPSAS in peri-urban Cochabamba as gatekeepers. The southern zone of Cochabamba is one region in which SENASBA has struggled to engage with DWCs. ASICASUDD-EPSAS holds regular meetings with member DWCs in the region and regularly engages with up to 40 committees and associations. ASICASUDD-EPSAS gives

SENASBA an in-road as it endeavours to engage with DWC leaders in a region in which it has little or no legitimacy.

A SENASBA employee explained,

Our first most urgent intervention was to do an initial assessment to try to understand some more about the committees in the southern zone... We had to go in through ASICASUDD-EPSAS, and had to operate with their involvement, in reality ASICASUDD-EPSAS are the organisation who link up the committees, and who link us to the committees, and who link the committees with all other institutions.<sup>36</sup>

Small EPSAS have always presented a challenge to the Bolivian state because they have emerged in regions where the state has failed to provide. They are testimony to state failures, and also an unknown quantity. The state has very limited information about how they provide, and to whom. In theory SENASBA is an attempt to understand these EPSAS and to develop the relationship between EPSAS and the state. In essence this is part of a process of formalising the informal sector and to build EPSAS' capacity as water providers. A civil servant at the regulator AAPS explained,

We cannot compare EPSAS La Paz (the public utility in La Paz), with a water committee. They (the water committees) have the right to provide (water)... the community has organised and now we must respect their right to provide... We have to develop these committees so that are able to provide a service of quality... The water sector now is creating a host of institutions that will develop and invest in smaller water providers.<sup>37</sup>

In essence SENASBA is looking to capacity build water providers that exist on a variety of scales, so that the state can efficiently regulate the sector.

### **Regulating the sector**

AAPS was formed in 2008 as the new regulatory authority for the potable water sector. AAPS was created to ensure the compliance with the fundamental right to water and prioritized use for human consumption,

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<sup>36</sup> SENASBA employee, La Paz, November 16th 2010

<sup>37</sup> Senior civil servant AAPs, La Paz, November 16th 2010

food security and the conservation of the environment. Regulation of the water sector in light of the government's commitment to formalizing and recognizing previously informal providers poses particular challenges for AAPS. A senior policy-advisor at AAPS who has worked on water regulation for over a decade explained:

This is a complicated scenario, before there were 28 providers to be regulated, to date there are 600, but our capacity has declined. So we are trying to develop a system of provision and a regulatory framework that accommodates all these different providers.<sup>38</sup>

Regulation of the water sector was preserved for the larger utilities, now the state is trying to develop a regulatory framework that incorporates small-scale water providers. But what does this mean in practice? AAPS has multiple responsibilities that include:

- Overseeing the development of a system of licenses and registries for rural and urban potable water providers of all size.
- Authorizing, modifying and revoking rights to use water for human consumption, and to provide water and sanitation services
- Ensuring compliance with the obligations linked to the rights granted through the system of licenses and registries.
- Protecting, preserving, and the sustainable use of all water sources, resolving conflicts around water provision.
- Protecting the rights of different water user groups.

The state obviously frames developing and fortifying regulation as key to improving water provision in Bolivia. According to one civil servant working at AAPS failures within the water sector in the past, particularly the failure of privatization, have been put down to poor regulatory frameworks, or inefficient implementation of regulation. A member of the planning team at the MMAYA explained how developing an effective system of regulation was pivotal if reforms to the water sector were going to work.

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<sup>38</sup> Senior civil servant AAPS, La Paz, November 16th 2010

Someone has to regulate the sector, and make sure that the water that is provided is up to standard; there are so many different unregulated providers out there.<sup>39</sup>

AAPS has been tasked with establishing a decentralized structure of regulation. Regulation of public utilities and urban water providers is premised on pre-existing regulatory frameworks and public participation. AAPS and the MMAYA are still in the process of exploring what regulation will mean for small-scale potable water providers such as the peri-urban DWCs. Before this can happen, AAPS has been charged with the task of ensuring that a further 500 informal providers become EPSAS by 2015. In practice this means licensing and registering informal water providers with the state. AAPS thus relies on SENASBA to capacity build smaller EPSAS so that they can become formal water providers, but as demonstrated, it lacks the capacity to do so. As explained by one employee at AAPS

SENASBA has to develop and fortify its self so that it can provide adequate assistance to providers. This is because AAPS as an organisation can regulate, it cannot develop and capacity build providers.<sup>40</sup>

Once the process of capacity building, and registering and licensing smaller water providers is underway, AAPS envisions a complex multi-scaled form of water provision that incorporates small EPSAS. Regulation of smaller potable water providers will be gentler than that which regulates the larger utilities, as explained by an AAPS employee,

The committees? We are going to facilitate instruments so that they can self regulate. We feel that regulating from above would not be effective. Firstly, we have to create institutionality and then we can regulate in the future. They will develop systems of self-regulation. We want committees to start regulating each other, in groups of 20. Every group will have to provide the same quality of water, but large and medium scale providers will have to expand provision too, to keep up with demand. They will be more closely regulated. We will try to demand that they provide a certain quality and type of provider.<sup>41</sup>

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<sup>39</sup> Civil Servant planning department of MMAYA, La Paz, November 17th 2010

<sup>40</sup> Senior civil servant AAPs, La Paz, November 16th 2010

<sup>41</sup> Senior civil servant AAPs, La Paz, November 16th 2010

This approach, although not underway yet, embodies an expansion of the regulatory framework to incorporate the smaller EPSAS. The approach is light touch, as AAPS employees recognise the power relations between community water providers and the state, or any state led reforms that might be perceived to be encroaching or co-opting community providers.

In rural and peri-urban areas of Cochabamba the task of licensing and regulating small-scale water providers is undertaken by CTRL (The Technical Committee of Licenses and Registries). In Cochabamba, it is estimated that there are between 500 and 600 small-scale water providers, and so this is no mean feat. The rationale behind CTRL is rooted in the Water War. In the year that followed the protests and before the election of Evo Morales, there came a push by communal water providers to protect their rights to access, manage and provide water, initially against concessions and the privatisation of basic services (Comite Tecnico de Registros y Licencias Cochabamba 2012). This was demonstrated most successfully through law 2066, and the passing the irrigators' law in 2004 (as discussed in the previous chapter). Reforms to the sector since 2006 have continued along a trajectory that began in 2001, where a system of licences and registries were developed to replace the concession system that led to the Water War. In 2008, law 2066 was amended to extend the system of licensing and registries through the work of CTRL. The organisation, which is devolved from the central regulator AAPS, operates at a departmental level and authorises two different types of rights to provide water in Bolivia, licences and registries. Once granted, the entities become an EPSAS (formally recognised provider of potable water and/or sanitation services).

Water committees, associations and cooperatives can apply for a licence to provide a water service, this gives them usufruct rights to water sources and to manage and provide a drinking water or sanitation service to a defined community or region. This licence lasts for 40 years but can be renewed so long as the provider is still capable of providing an efficient service. Peri-urban committees and associations are able to



apply for licences. Indigenous and peasant communities, irrigators, and farmers' unions can apply for registration of their drinking water or irrigation system. The registration is not time-bound and its duration depends on the resilience of the system, and its capacity to meet the needs of the community it serves. Licences provide communities with legally protected rights to water for at least 40 years, and according to CTRL longer if they can prove they are still providing an efficient service. Water systems that are registered are granted unbounded rights to water and to provide water.

To date CTRL only exists in Cochabamba, principally because it the department with the most informal water providers. CTRL is a manifestation of demands that came from the social movements and also the intention of the state to capacity build and regulate the informal providers. Consequently, the organisation has two representatives from the platforms FEDECOR (which represents the irrigators) and ASICASUDD-EPSAS (representing the peri-urban water committees of the Zona Sur) and two representatives from the national regulator AAPS. CTRL is responsible for processing and administering registries and licenses in rural and peri-urban areas. By enlisting representatives of the irrigator and peri-urban potable platforms in the department (ASICASUDD-EPSAS AND FEDECOR), CTRL have been able to convert and formalize blocks of informal providers. Obtaining a license to use a water source and providing a service is the first step towards regulating the informal sector. The committees and associations are now recognized by AAPS as EPSAS in their own rights, and can, in principle, be the subject of SENASBA projects and interventions.

## **Conclusion**

The right to water in Bolivia is principally a discourse that has framed the (re)nationalisation of the water sector. Renationalisation does not simply mean prohibiting private sector participation, it also means integrating informal providers. Activists that have campaigned to protect communal water providers are concerned that the idea of the right to water threatens

to encroach into the autonomy of communal providers. In practice, the reforms seek to continue the trend established prior to 2006, which involved formalising and incorporating communal water providers. But also a new institutionally has been established that seeks to develop and regulate the diverse providers that are now recognised to exist on multiple scales. In essence, failure to channel sufficient resources and funding into this initiative, or to develop and finalise a new water law means that the reforms do not mark a radical departure from the previous neoliberal path. Consequently the municipal models of provision continue to persist in urban areas, while informal water providers fill the gap in rural and peri-urban regions. This reveals that the right to water has not led to an overhaul of the established system.

In the following chapter I explore the many waterscapes of Cochabamba, within and beyond the municipal parameters that the public utility SEMAPA should provide, and the power relations between different actors.

## Chapter 5. The City

In order to explore the role of peri-urban drinking water committees (DWCs), and the implications that reforms to recognise the right to water have had on peri-urban DWCs, I first set out the many waterscapes of Cochabamba. I draw on the well-established notion that urban waterscapes are hydro-social constructs (Swyngedouw 1999; Gandy 2006; Loftus 2007) and that power relations within society shape them. Formal and informal waterscapes exist on different scales (see Hinjosa and Budds; 2012). In the case of Bolivia, the formal urban waterscape is premised on the municipality. In practice, the state's failure to entrench and develop the municipal water provider adequately means that many diverse informal providers exist within the municipality. These have emerged in order to provide water at the level of the community within and beyond the limits of the municipality. The public water utility SEMAPA continues to promote rhetoric around consolidating the municipal model of service provision across the whole municipality, particularly in peri-urban regions where community providers have proliferated to fill the gap in service provision. In practice I demonstrate that diverse community providers have historically contested, and continue to contest the municipal ideal with community level alternatives, thus subverting the state model of provision and municipal waterscape. The model for water governance within the municipality has been undermined over time and has become increasingly contested by the diverse informal providers which have flourished.

I begin this chapter by setting out the physical water sources that supply the waterscapes in and around the municipality. I then explore the historical development of the municipality of Cochabamba, specifically the social processes that have shaped how people access water here and the waterscapes that have been forged as a result. Access to water in the municipality of Cochabamba is fragmented. The public utility SEMAPA provides water to elites in the centre and the north, but provision is unreliable and customers often rely on water vendors during the dry

months to top up their water tanks. Meanwhile informal and communal systems serve both wealthy and poorer communities beyond the centre. Water vendors provide water to the poorest communities, but also top up when SEMAPA or community water systems are experiencing water shortages. There is a long history of collective organising around water management in peri-urban Cochabamba and thus grassroots irrigation and drinking water systems are part of the rich fabric of the waterscape. The concept of the community water provider is thus ubiquitous but also rather ambiguous, and so this chapter explores and defines four different manifestations of community water provision in and around the municipality of Cochabamba. In doing so I argue that while informal water providers are diverse, few are truly autonomous, and they vary greatly in their effectiveness as water providers.

Community-led providers recognise the power and agency they command by retaining some control over water provision at a local level, and are unwilling to relinquish that control over water provision. By managing and providing water services at the level of the community, community water providers are undermining the established structures of the state. This chapter begins to outline some of the struggles for control between informal providers, and also between informal water provider and the state, although this relationship will be discussed in further detail in the following chapter. The unit of focus in this chapter is just beyond the municipality (see map 2), which extends beyond the urban centre to incorporate the peri-urban areas and the irrigators, who are inherently tied to the city for reasons that will be explained in this chapter.

### **Water sources in the municipality**

The municipal provider SEMAPA has historically relied on a series of wells that exploit the aquifer to the north east of the city in the surrounding regions of Muyurina and Vinto. It also uses a range of surface sources including the lakes and reservoirs of lakes Warawara, Escalerani, and Saytokocha. 95% of SEMAPA's water sources are beyond the city (Los Tiempos 2011). Increasingly these sources have

been contested by local communities who argue that the state is exploiting water sources on their land, to the detriment of their local wells. The communities of El Paso blocked the main road out of Cochabamba to La Paz in mid 2011 in protest (Los Tiempos 2011). These sources do not provide sufficient water for the provider and during the dry months some parts of the city rely on water vendors. These shortages feed the discourse among Cochabambinos that the region has become prone to natural water scarcity.

There were two principle narratives that I would hear regularly from Cochabambinos; first, that the rainy season has become shorter and second that Cochabamba receives less rain during that season. During the first months I spent in the field I accepted these ideas, I was told that the rains came later and that the season was shorter. Using data available from the state meteorology department I set about verifying these claims. I plotted out the annual rainfall taken at a station near the airport, and it transpired that while rain patterns were highly erratic from year to year, there was no downward trend (see figure 2). With regard to the second point, the length of the rainy season did vary from year to year, but again there was no decreasing trend.

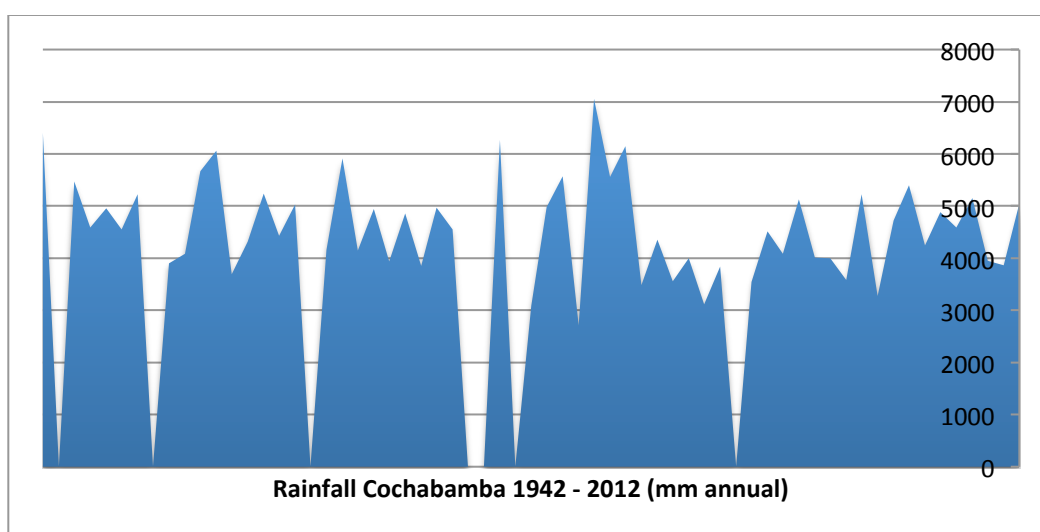


Figure 2: Average annual rainfall Cochabamba 1942 – 2012 (mm)

This idea of the declining rains and shortening rainy season was used by Cochabambinos to explain why SEMAPA's water supply was limited

during the dry season and also why the Misicuni dam building project was essential. The perceived decrease in rainwater levels was often put down to climate change and often linked to occurrences in other parts of Bolivia that are widely thought to be due to climate change in the Andes (Vidal 2011). Most frequently comparisons would be made with the severe droughts experienced in the dairy farming region of Pasorapa south of Cochabamba and also the dramatic melting of glaciers north of the capitol La Paz. While rainfall may not be decreasing, what is certain is that SEMAPA's water system needs upgrading and is subject to leaks. The surface water supplies that SEMAPA have historically relied on have been running dry for some time (Laurie and Marvin 1999), which is not a direct consequence of climate change. In fact several commentators have highlighted that SEMAPA loses substantial amounts to clandestine connections and leaking pipelines estimated to be at around 55% (Shultz and Draper 2009:35). The utility has tried to negotiate rights to use other water sources belonging to irrigators in the region: its future development now rests on the Misicuni dam project due to be finished in 2015<sup>42</sup>.

SEMAPA's on-going attempt to build a universal water system is dependent on the completion of the Misicuni dam. Since 1952, it has been the proposed solution to Cochabamba's water woes. The project is centred on damming three rivers in the mountains north of Cochabamba although it has been remodelled several times over the years. During the 1970s the IADB provided funding for a more detailed scoping exercise which developed the dam into a multipurpose project, providing water for irrigation, potable water for the municipality of Cochabamba and hydroelectricity.

The project would provide a potable water source for the municipality and also a method of promoting economic growth and the development of the agricultural sector in the region. Although, in light of the rapid expansion of the city of Cochabamba and the lack of accurate demographic data on

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<sup>42</sup> Misicuni employee, Misicuni site visit, March 10th 2010

the Zona Sur, some water activists and engineers that I met were not sure that the Misicuni dam would be able to keep up with the needs of the population.

Several presidents and municipal mayors have promised to make this hydric dream a reality. The project has, however, been prone to stops and starts. Principally, it has been difficult to secure funding. Before the 1990s there were insufficient public funds and foreign investment, then during the early 1990s disagreements between local and central government about the capacity of the project slowed progress. Following that, as the state began the privatisation of water services in the late 1990s, Misicuni became part of a neoliberal dream not only to secure the water future of Cochabamba but also its economic development (Laurie and Marvin 1999). The dam was part of the Cochabamba concession granted to Aguas de Tunari, this was the same concession that ignited the Water War and which came to an abrupt end when the concession was terminated in 2001 as a result of the unrest.

Funding was eventually secured from the Italian development agency to complete the project. The first phase, which was to drill a tunnel of just less than 20 km through the mountain ridge so that the water could reach the valley below, was completed in 2005. This was no mean feat and the first tunnel of its type to be constructed in Latin America. This phase was completed in 2005, at which point Misicuni was reconstituted as a public project, run by the state, to secure further funding for phase 2 and 3, the dam building phases. Ultimately the 120 metre dam will channel the water of three rivers through the tunnel to be distributed to irrigators and to a SEMAPA processing plant that will distribute potable water.

Once the second phase of construction is completed, it is projected that the project will deliver 3,100 l/s of potable water to Cochabamba and the surrounding towns and 1,100 l/s for irrigation and 120 m/w an hour of electricity. An employee of Misicuni have declared that this will be sufficient water for the municipality and possibly for nearby towns, if they

can secure funding and infrastructure for connections<sup>43</sup>. Phase 2 began during Evo Morales' first term as president in 2007 and since then the president has ostentatiously adopted the project as his own, linking it to constitutional endeavours to reform the water sector around a public model and to recognise the human right to water.

The president of Bolivia, Evo Morales, signed an agreement this Saturday to build the Misicuni dam that will provide water for the city of Cochabamba and several provinces. He said that this huge public project consolidated the national struggle to realise the human right to water and that water provision should not be privatised for the benefit of just a few; 'During the struggle to recognise water as a human right...and the struggle of 2000 (the Water War), I realised that water could not be privatised, it is a natural resource. How then can companies appropriate this natural resource to sell it?' ... Morales said that the struggle was not only regional and national, it was also international, 'Water is a human right and basic services are a human right'. (Los Tiempos 2009)

The excerpt from the news article above demonstrates how Misicuni has shifted from a privatisation project to become an emblem of the nationalisation of basic service provision, fitting neatly into the anti-privatisation narrative, rooted in the Water Wars, which formed the basis for reforms to the Bolivian water sector. A project that was once a neoliberal pipe dream has been developed and has secured state funding under the Morales government. This could be seen as a major achievement and a pivotal part of the industrial socialism or Andean capitalist project.

The president claims that completion of the Misicuni project will enable the state to begin enacting the rights to basic services that are set out in the constitution, while also driving local development by providing water to the powerful irrigator groups and hydro-electricity to the municipality. Conversely, it currently provides a convenient reason why access to water has not improved in the Zona Sur since Morales was elected. In the late 1990s, the dam was billed as a project that would modernise water

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<sup>43</sup> Misicuni employee, Cochabamba, Feb 04 2010



provision in the municipality, further industrialising water provision so that it could be distributed universally to customers of the public utility.

Misicuni has raised no strong opposition from the relocated communities who have been relocated and compensated,<sup>44</sup> or from local environmental NGOs or activists that I visited while in the field. Furthermore, the state has framed Misicuni as an inclusive project that will lead to improved and more equal access to water across the Zona Sur. Both the MMAYA and SEMAPA have made a public commitment to prioritising Misicuni water for the most marginalised peri-urban communities in Zona Sur.

The main beneficiaries will be the peri-urban zones, especially in the southern zone, because they will have new networks and will be able to have 24-hour service with good pressure..." said general manager SEMAPA, Leonardo Anaya (Caero 2009)

At the time of writing, the public utility SEMAPA had not secured funding to expand water provision into the Zona Sur to deliver Misicuni water. There are contested ideas about who should access and distribute the water. ASICASUD EPSAS have presented alternative proposals to the SEMAPA model, to the Ministry for Water and the Environment. In these, DWCs in the peri-urban Zona Sur could access and distribute MISICUNI water using a series of mega tanks and pre-existing DWC water systems: this continues to be contested.

### **The aquifer**

Most suburban and peri-urban water committees rely on water from the aquifer. These tend to be accessed using wells within the community, but sometimes can be piped from wells in another community. In the Zona Sur of Cochabamba, this is generally saline and can be contaminated as a result of insufficient sanitation and the presence of industries and dairy

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<sup>44</sup> The IAB funded the relocation of the numerous communities that were living in adobe huts in the valley that is set to be flooded. This was a relatively successful relocation, there had been no opposition, and the relocated groups had new houses and schools and churches with windows and running water. Despite this the community members had requested that their old adobe houses be moved up the hill, and the new houses were being used by many to keep their animals in.

farming in the region. The topography of the valley means that the aquifer is naturally prone to salinity but this has been exacerbated by over-exploitation, which happens as a result of wells being too close to one another, or using pumps that are too intensive<sup>45</sup>. This also means that many community wells are now starting to run dry. Furthermore, the city dump K'ara K'ara is poorly lined and prone to seepage, thus contaminating the water supplies of nearby communities (Mamani 2010). The impact of peri-urban processes on the aquifer and the process by which peri-urban communities address the contamination and depletion of the aquifer are discussed in more detail in chapter 7. Before exploring some of the diverse water providers that exploit the aquifer, I begin by setting out a brief overview of the urbanisation of Cochabamba.

### **The urbanisation of Cochabamba**

Nestled in the Cochabamba valley, off the slopes of the Andes, the city is enclosed by the park and peak of Tunari to the north and the mountains of the Cordillera Real to the west (see figure 4).



Figure 3: Cochabamba from the northeast

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<sup>45</sup> NGO-affiliated Engineer, Cochabamba

The municipality stretches out to the more rural agricultural regions to the neighbouring towns of Tiquipaya and Quilacollo to the west and towards Sacaba in the east (see figure 4). The arid urban Zona Sur extends down beyond Alalay lagoon and formal housing and basic services peter out as one ventures into the informal settlement of the Zona Sur, in the more inhospitable hilly regions that lead down to the rural dairy farming areas of the department (see figure 5).

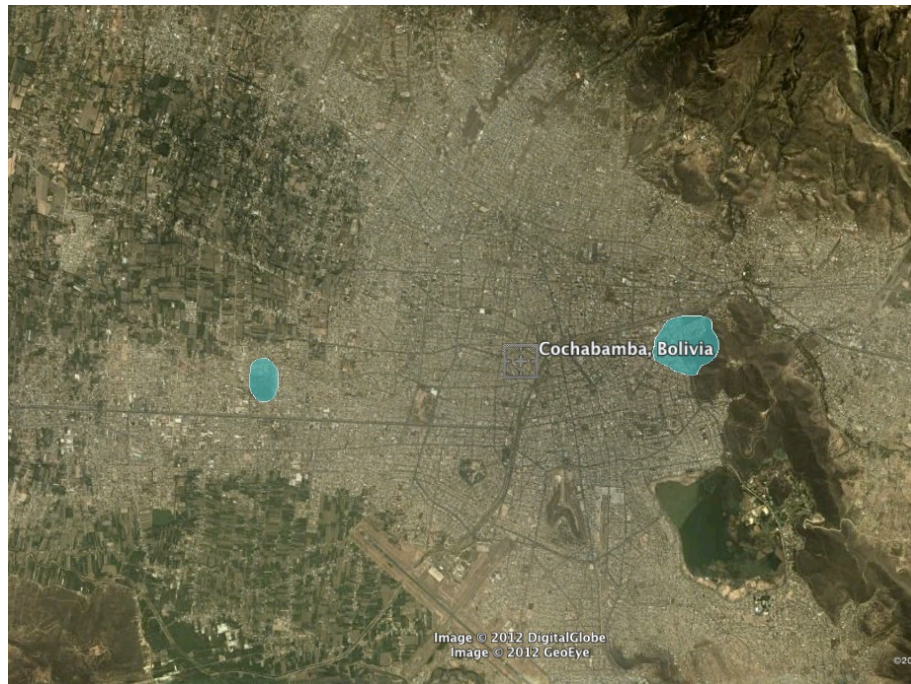


Figure 4: Satellite image on the centre of the city

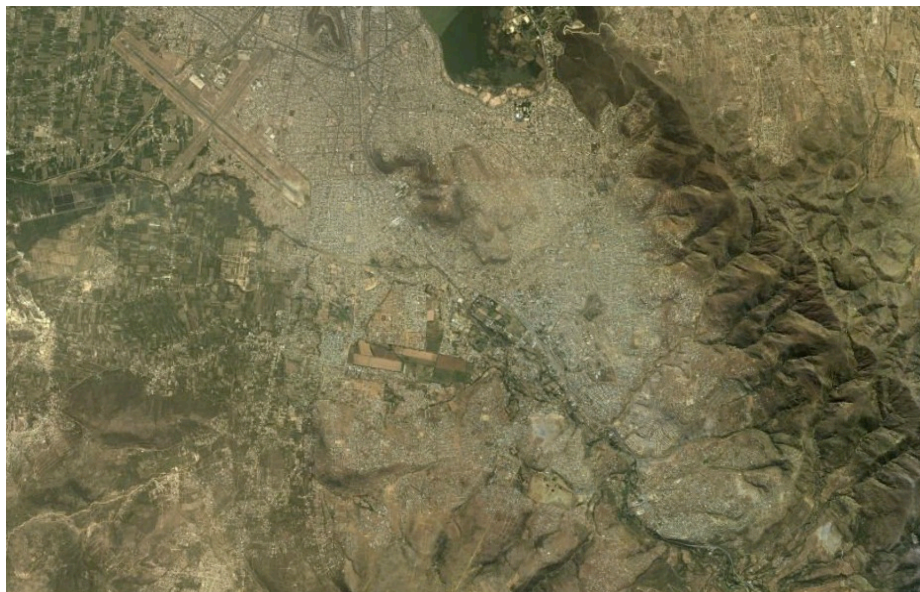


Figure 5: Satellite image of the Zona Sur

Cochabamba had an estimated urban population of 1,197,071 in 2010 (MMAYA, 2011) and, while the city has grown rapidly over recent decades and the centre and parts of the peri-urban south are very urban, there is a strong agricultural presence in and around the city. Dairy farming is still practiced in the Zona Sur, while flowers, fruits and vegetables are still grown just outside the city and farmers continue to be linked to the city because of the enormous market that the city has grown around.

The Cochabamba valley has been inhabited by indigenous communities since before the arrival of the Spanish and was known locally as *Qhochapampa* which is Quechua for lake flood plain. The communities that settled here flourished because of the fertile soils and abundant water sources. The Spanish established it as a city, Villa Oropesa, in 1574, but soon renamed it Cochabamba, a Spanish interpretation of its indigenous name. The name embodies the Castilian-Quechua mix that still characterises the culture, language and ethnicity of the city today. Agriculture thrived here and the region soon became the breadbasket of Bolivia as a result of the fertile soils and temperate climate. Local indigenous populations provided the Spanish with labour both for the growing agricultural sector in the region and also for the expanding mines in and around Potosi. The region continued to develop around small-scale agricultural production and the hacienda system, while the 'cancha' or market in the south centre of the city attracted agriculturalists from the surrounding regions.

The city continued to grow steadily, until the first half of the 20<sup>th</sup> century, when it expanded rapidly to the south and north around the new roads and infrastructure for transport was developed. Goldstein (2004) outlines urban planning for the city during the latter half of the century and its focus on creating an ordered and segregated modern city (65). Urquidí, the principal architect behind the socio-political project of modernising Cochabamba and its transformation from a rural town to a contemporary city, drew heavily on the ideas of the 'Garden City' from Europe, which



influenced the post-colonial development of many Latin American cities. Based on the idea of building cities surrounded by greenbelts for agriculture and leisure, Urquidi attempted to zonify modern Cochabamba.

For these architects and political backers in the city's municipal council, the goal of urban planning was to create an efficient and industrious city, based on the modernist principle of functional segregation as a means to create order, balance and economic productivity. (ibid)

Such planning, it was hoped would ensure the orderly development of the city in the future (ibid: 70). However, the orderly development of the city was undermined by three waves of migration that formed the sprawling, unequal, municipality of Cochabamba that exists today.

### **Communal organising for water on the urban fringes**

The revolution of 1952 brought a wave of rural-urban migration to the municipality: it also re-ordered the form and organisation of agriculture in the department as the haciendas were disbanded and land was re-distributed to peasants (as discussed in chapter 3). This was to dramatically change the waterscape as groups of farmers developed communally managed irrigation systems in the north and north-west of the municipality that continue to have a notable physical and political presence today (see figure 5). Systems were formed around pre-existing irrigation systems from the haciendas. *Los Regantes* (the irrigators) developed and managed their irrigation systems using rules based on dynamic *usos y costumbres* or uses and customs. The *usos y costumbres* of *Los Regantes* have been shaped by the physical constraints of the river basin, historic and cultural processes, mutually agreed water rights and long-term strategies for the management of the river basin (Flores et al 2004: 11). .

Irrigation-led agriculture is not the norm in Bolivia, it is estimated that only 25% (Perreault 2008: 847) rely on the method. In Cochabamba, however, a region that supplies much of the country's fruit and vegetables, intensive farming has been driven by irrigation. In 2000 it was estimated that just over 70% of farming in the municipality was irrigated (Assies

2000:19). Irrigation has provided Los Regantes with relatively profitable livelihoods and, as a result, they have mobilized aggressively at different points since the 1990s to defend their irrigation systems and livelihoods. During the 1990s some came together to form an association of irrigators known as FEDECOR (The Cochabamba Departmental Federation of Irrigator Organizations), a platform of irrigators that became an effective and visible political block representing the views of irrigators in Bolivia. They mobilized to defend irrigation sources from depletion by wells excavated by SEMAPA to meet the needs of the urban population. Later, in 2000, it was the irrigators who first took to the streets during the Water Wars, in defence of their water systems that were to be appropriated as part of the Aguas de Tunari concession.

As discussed in the previous chapter, during the 2000s FEDECOR became a political platform for irrigators to influence water policy and legislation, most notably the River Law of 2004 that protected their water rights, uses and customs, and in turn the livelihoods of the irrigators. Perreault (2008) has contended that FEDECOR has provided a platform by which community-level irrigators can interact with the state and gain leverage to influence policy.

### **The first urban water committees**

Urban drinking water providers began emerging amongst the informal communities which first appeared in Cochabamba during the late 1950s. This was spurred by the migration that began as a result of the end of bonded labour in the late 1940s (Kohl et al, 2011). The city, however, was unable to provide enough cheap housing for the growing population and so small, sporadic informal settlements began emerging in the arid, mountainous land to the south of the city, which had previously been only sparsely populated by some farmers.

People began to organise as settlers or renters unions with the intent of securing permanent housing for their members, even if that meant colonising land deemed 'un-urbanisable' by the alcadia. Between 1955 and 1961, these renters' unions initiated the first land invasions in the city. The land that these groups

occupied, on two hills in the Zona Sur [Cerro gran Miguel and Cerro Verde] overlooking laguna Alalay... (Goldstein 2004: 72)

In the bottom right hand corner of figure 4, there is a lake. To the south of this is the location of the first informal settlements. Today it is the beginning of the Zona Sur, but figure 4 demonstrates how much the region has expanded since then.

Land invasions continued throughout the 1960s and 1970s, then during the 1980s, after the crash in the cost of metals and the closure and privatisation of the mines in accordance with a structural readjustment program, a second wave of mining migrants led to the development of new informal communities, but this time further south of the municipality. This changed the demography and form of Cochabamba again, but also had an impact on the demography and land use of nearby rural areas.

Migrants looking to take advantage of the booming trade in coca quickly populated the tropical region of the Chapare to the north east of Cochabamba. Meanwhile, the sprawling peri-urban Zona Sur of Cochabamba became home to economic and political migrants looking for cheap land and or accommodation. There were then some migrants who worked seasonally growing coca, but built a family house in the Zona Sur of Cochabamba: the boom in coca thus partially funded the urbanisation of the south. The Zona Sur developed largely as a result of the impetus of 'savvy' loteadoras<sup>46</sup> trying to make a 'quick buck', buoyed by the absence of any real regulation of the expansion. The impact of the loteadora-led development is discussed in further detail in chapter 7.

The state chose to overlook the invaders and loteadoras until the early 1990s, thus creating a peri-urban population that were socially, economically and politically marginalised from the outset. This began during the 1970s when the municipality initiated a policy of exclusion and

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<sup>46</sup> Loteadoras would illegally appropriate unused land on the edge of the city carve it into blocks and sell it off for migrants who wanted to build cheap housing in the region. The impact of this approach is discussed in more detail in chapter 7.

illegalisation criminalisation of the informal barrios that were emerging in and around the centre. The process of urbanisation led to the peri-urbanisation of the social and environmental inequalities that were marginalised to the edge of the city.

The city thus grew with labour and resources that were brought in from the edge of the city; communities that are simultaneously integral to and excluded from the development of the city. This, in turn, seriously undermined broader urban planning for the city and meant that its residents have driven peri-urbanisation of the Zona Sur and the state had very limited legitimacy.

By (the) 1990s, the architectural impulse to produce an ordered city through physical design of the urban environment had failed... Indeed by 1993 80% of all the peripheral barrios were categorised as clandestine or illegal, a figure that encompassed 40% of the total urban population... By ignoring the legal requirements of urbanisation, migrants themselves had taken control of the urban development process... the unintended consequence of excluding these neighbourhoods from membership in the city had been to prevent the state from penetrating and controlling the excluded barrios. (Goldstein 2004: 79)

Access to water services reflected the exclusion and segregation of migrant peri-urban communities from the centre and the basic services granted to the elites living in the old centre. There has been a citywide water provider in Cochabamba since 1948, but the public water utility SEMAPA was established in its first incarnation in 1967 as a decentralised public body responsible for the technical, administrative provision of water and sanitation across the municipality of Cochabamba. The municipalisation of water provision during this period did not, however, extend to the whole municipality.

Mirroring the trend observed in many developing countries during the 20<sup>th</sup> century Cochabamba experienced an infrastructural crisis reflecting broader economic and political processes (Marvin and Laurie 1999). The municipality became more densely populated and simultaneously



continued to expand, urbanising the surrounding regions, but did not develop sufficient infrastructure to meet the water and sanitation needs of the city, particularly the poorer migrant communities in the peri-urban Zona Sur. The public utility, like the sector at large, was underfunded until the 1990s, with less than 1% of public investment in the sector prior to privatisation (Oporto and Salinas 2007) and infrastructure was prioritised for the urban centre. This meant that large parts of the city were left unserved by the public utility and came to rely on informal communal provision and water vendors.

As part of the conditions attached to a World Bank loan during the 1990s, the process of privatising the water sector began in the late 1990s. Mirroring the trend for privatisation observed across Latin America during this period driven by international financial institutions, the failing public providers were replaced with private sector participation. This led to the Water War, as discussed in chapter 3. As outlined in chapter 4, soon after law 2066 was passed to protect the rights of communities to provide water and the uses and customs, as well as the social and cultural value that is linked to the water systems. The Water War sought to defend and further galvanise the struggles of the alternative local water providers that had emerged out of the space left by the state and in opposition to private sector involvement.

In the long term the irrigation systems and DWCs have become sacred cows. It would be politically unviable for the state to advocate the absorption of community-led water providers by a public or private initiative. Additionally, and as outlined in the previous chapter, private sector participation in the water sector has been prohibited under Evo Morales, and furthermore, since 2006, the role and capacity of community providers has been advocated as a solution to improving access to water in rural and peri-urban areas.

The reforms to date have sought to re-order the waterscape, moving beyond traditional conceptualisations of a universal municipal- wide water

provider, to engage with informal water providers operating at the level of the community. The implications of these reforms appear to be a form of co-option or incorporation which is discussed in more detail in chapter 6, 7 and 8. However, in order to understand the role diverse providers play, I begin by exploring some of the shortcomings of the public utility across the municipality over time (its role in the Zona Sur is discussed in more detail in chapter 6). I then explore the persistence and development of informal water providers and the relationships of power that exist between these diverse actors. The following section will provide a very brief overview of the public provider SEMAPA and the gaps in its coverage. This is to contextualise the development of the diverse community water providers in Cochabamba. The utility's role in the peri-urban Zona Sur is discussed in more detail in chapter 6.

#### **“SEMAPA? It's all but broken”<sup>47</sup>**

Over a decade after being re-instated as the public utility for the municipality water provision, SEMAPA has not made much progress in improving access to water across the municipality. It only covers the centre of the city (see map 3). This is widely accepted to be attributable to a number of factors. Firstly, insufficient investment in the sector by the state and weak regulation (Baer 2012). Secondly, the inability to secure funding as a result of a poor credit rating, which is in turn a consequence of inefficient project implementation (interview with SEMAPA employee, October 16<sup>th</sup> 2011). Thirdly, corruption and poor management (Driessen 2008). Beyond the political and economic processes that restrict the expansion of SEMAPA into the Zona Sur, the region poses particular technical difficulties. The mountainous terrain and unplanned barrios and informal constructions make it difficult and expensive to develop and extend water and sanitation systems. There have, however, been insufficient technical studies as a result of insufficient funds and investment in the sector to really explore the viability of extending the network (MMAyA 2008). Recently, SEMAPA's coverage has declined. In

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<sup>47</sup> Civil servant planning department of MMAyA, La Paz, November 17th 2010

2010 47.97% (SEMAPA 2012) of the population received SEMAPA water compared to just over 60% in 1997, however, given the increase in population in the region this may not equate to fewer connections, but it is certainly not impossible. SEMAPA has not had the funding or the capacity to maintain and upgrade a decaying water and sewage system or tackle widespread clandestine water connections<sup>48</sup>.

### **Community water providers in and around Cochabamba**

Drinking water committees exist all over the municipality of Cochabamba often as an alternative to the poor service delivered by the municipal provider (see map 2). They are more concentrated in the Zona Sur, however, because of the absence of any municipal provision in this area. It is estimated that there are 500-600 small-scale formal and informal potable water providers in the municipality of Cochabamba (World Bank Water and Sanitation Program 2007), and 149 formal community water providers in the peri-urban Zona Sur of Cochabamba (ibid:18).

It is important not to make generalisations about the community water systems in Cochabamba, they emerge under different circumstances, and thus the term community-provider covers a broad range of providers. Generally it is possible to group them into two camps. Some have developed using state funding through the LPP (Popular Participation Law), which is outlined in more detail in the previous chapter, but are managed by the community. Others are community-led initiatives that have emerged with the financial and institutional support of NGOs and the church, which can be on going. I did not encounter any that were truly autonomous (that is managed by the community with resources from within the community and without any funding or capacity from outside the community).

I want to avoid romanticising these organisations from the outset; they are often plagued by conflict, for reasons that will be discussed in more

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<sup>48</sup> SEMAPA presentation as part of the Water War +10 events, Cochabamba, April 15th 2010

detail in chapter 7. Water committees can be fragile institutions and are often undermined by limited water, financial and human resources. Alongside the increasing demand for water from a growing peri-urban population this means that water committees are prone to fading off in one region only to mushroom in another. In the following section I set out a typology of water providers.

Water providers are diverse and dynamic and thus are difficult to group and label. What follows is by no means a comprehensive typology of all of the community providers that exist in and around the municipality of Cochabamba. Instead it sets out some of the diverse forms of providers that have emerged beyond and within the formal municipal waterscape, and how they exist and relate to the state and other actors. I begin by considering the water system belonging to Villa Juan 23. This is a relatively stable community-led water system and somewhat typical of the types that exist in the northern and western suburbs of Cochabamba. I then explore the development and capacity of diverse community water providers in the peri-urban Zona Sur, and how communities without a committee or access to SEMAPA access water.

### **The suburban water committees**

Examples of the urban Cochabambino communities that benefited from the 1994 reforms which decentralised state control and financial resources in accordance with the Law of Popular Participation can be found in the suburban barrios in the North West of the city (highlighted in map 2). More recently these impacts have also been felt in the peri-urban south of the city. On the road heading west from the centre of the city towards Quiacollo, there are several barrios that were established during the 1980s by miners who had been displaced as a result of the closure of state-owned mines during that period. Villa Juan 23<sup>49</sup> is a suburban barrio, located around 4km outside the centre of the city in the barrio and populated by teachers, shop-owners, dentists and housewives. Vecinos

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<sup>49</sup> Methods used to gather the data that informs this section are discussed in chapter 2.

(residents) here live a comfortable life; many own cars and may have enough money to pay for their child to go to private school; several families own second properties and apartment blocks that they rent out.

The miners who settled in Villa Juan 23 had worked in the same mine and lived in the same villages. As such, the community is characterised by stable pre-existing relationships between families which makes for a coherent social structure. When they arrived in Cochabamba, the miners were well-organised and coordinated work together to set up the basic services that they needed. Using per capita funds available to the community through the LLP they excavated a well: the residents were fortunate that the well tapped into an abundant water source. This water is for community members only and, while funding for the construction of the system and some upgrading came from the LPP, the system is operated by the community and extracts water from the aquifer using the well that the community has exclusive usufruct rights to. The community's resident's association (OTB) manages the water supply with the participation of residents, along with other devolved aspects of everyday life. Residents of Villa Juan 23 pay less for water than SEMAPA customers and claim that they have better quality water, a claim I was unable to verify for this thesis. Villa Juan 23 residents have supported the development of their water systems and basic services in the barrio with money through the LPP. The community has the option of having its water supplied by SEMAPA directly, or to have the existing system managed by SEMAPA, however, they prefer to continue to manage their own water systems for their community.

Villa Juan 23's story is not an uncommon one. In the centre and north of the city, there are several communities which have built and maintain their own water supply. Similar self organising communities are even emerging in the barrios of the Zona Sur closest to the city. These systems are often built with communal funds, but become embedded through the use of LPP funds. Community members in these areas talk positively

about the LPP, as one of the most useful recent policies that the community has been able to use to steer local development.

While Villa Juan 23's water system requires the time and effort of the vecinos, they believe it is a fair trade off for cheaper, better quality water, which is less likely to run dry during the dry season<sup>50</sup>. Villa Juan 23 is bound by an identity forged in their original mining community which is still very strong within the barrio today. This is evidenced through events that re-affirm their identity as a mining community, such as anniversaries of the re-settlement. Vecinos know their neighbours; they have a shared sense of history that they regale with one another; they decorate their houses in photos and memorabilia from their mining community and share stories that re-affirm their collective identity. There are high levels of participation in the development and management of the water system and community-led activities across the barrio. This community has developed a water system that works and they are unwilling to give it up. SEMAPA have offered to incorporate their system into their main line and they have refused. The community was unwilling to participate in meetings that bring DWCs together from other parts of the municipality. One meeting I attended with a member of the community was organised by FEDECOR and attempted to bring diverse communal drinking water providers together from across the municipality. However, the only reason we attended the meeting was because they were keen for me to observe one of these meetings; they didn't really participate in it.

In general, the community preferred to operate independently, using LPP or communal funds. Furthermore, there are fears amongst community elders that the reforms to recognise the right to water and universalise access to water may have detrimental effects on the community's water supply. One barrio elder explained to me that he had heard rumours that there were plans afoot to start piping water from abundant springs such

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<sup>50</sup> That is not to say that there aren't a few vecinos who choose to opt out of the system, the option of buying in SEMAPA water is open to vecinos.

as his down to the communities of the Zona Sur. These fears are unfounded, but demonstrate the strong sense of collective ownership and rights to water sources within communities and the lack of willingness to compromise those water sources.

This community is not 'Masista'<sup>51</sup>, like the irrigator communities that are part of FEDECOR. Community members tended to be cautiously pragmatic about the reforms proposed by Evo Morales and his government. Their lack of enthusiasm for reforms to link up water providers in the municipality, through informal or state-led initiatives is symptomatic of the fact that the community has developed its own water system independently that works efficiently. Any change to that system has the potential to undermine water provision in the area. Villa Juan 23 residents have a reputation for their skills and efficiency at local organising, and thus appear to be the exception to the rule. Some of their neighbouring barrios have had their own community-developed water systems in the past but the water has dried up, or the community has decided it would rather receive water from SEMAPA.

Water systems in the barrio here are not dissimilar to those in other communities to the west and north of the centre that have developed them themselves but received financial support from the state through the LPP. Community leaders in these areas talk positively about the LPP, one ex-president of the barrio explained that he thought the LPP had brought more positive change to the barrio than any other policy since it had been established. Decentralising funds has promoted local development and fostered a strong sense of community. Because the community is well organised and has access to resources such as a plentiful water supply, they have been able to develop a barrio that functions well and a water system that is cheaper and supposedly supplies better water than SEMAPA. Ironically, a state-led initiative has forged a community that is now unwilling to cooperate and become

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<sup>51</sup> Pro MAS (Movement for Socialism) Evo Morales' political party

involved with development initiatives outside the barrio. Similarly to the irrigators, Villa Juan 23 believes it has the right to usufruct water via their well, to manage their water service independently, and to own and develop their own infrastructure.

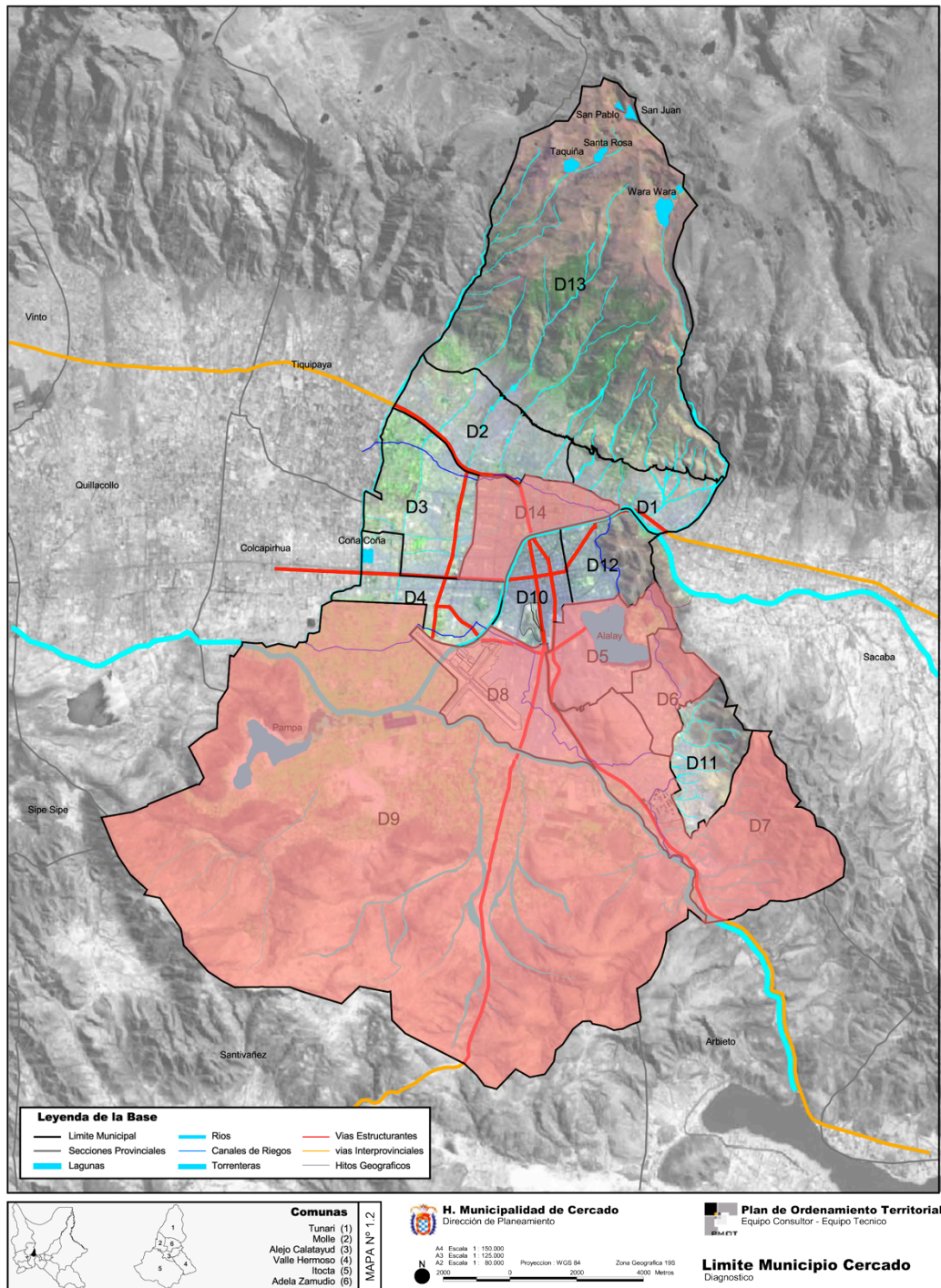
Informal water providers have always existed across Cochabamba, and thus water provision has always been splintered, as outlined by Kooy and Bakker (2008). The LPP, as part of decentralising neo-liberal reforms advocated during the early 1990s in Bolivia has served to re-enforce this fragmented provision, but this is not necessarily a bad thing. Villa Juan 23's experience demonstrates that while decentralising funds to support local water provision can be effective, its success is dependent on cohesive social relations, a willingness to participate, and plentiful, clean water sources.

In the following pages I present the three different types of water provision in the peri-urban Zona Sur, a region that is poorer and more socially fragmented than the centre and north of the city, and suburban barrios such as Villa Juan 23. I present two different types of communal water providers, and the water vendors that serve the poorest communities. I discuss their relationships with other state and non-state actors and their capacity to meet the water needs of local communities.

### **The peri-urban drinking water committees**

The Drinking Water Committees are products of the community-led development that has characterised the Zona Sur as a result of exclusion by the state, the failure of SEMAPA, and the initiatives of NGOs and the church. DWCs are predominantly found in communities in the south and south-eastern corners of the municipality (see Map 2), in districts 5,6,7,8 9 and 14 of the municipality that are collectively known as the Zona Sur (see Map 4). Many of these barrios were established around the same time.

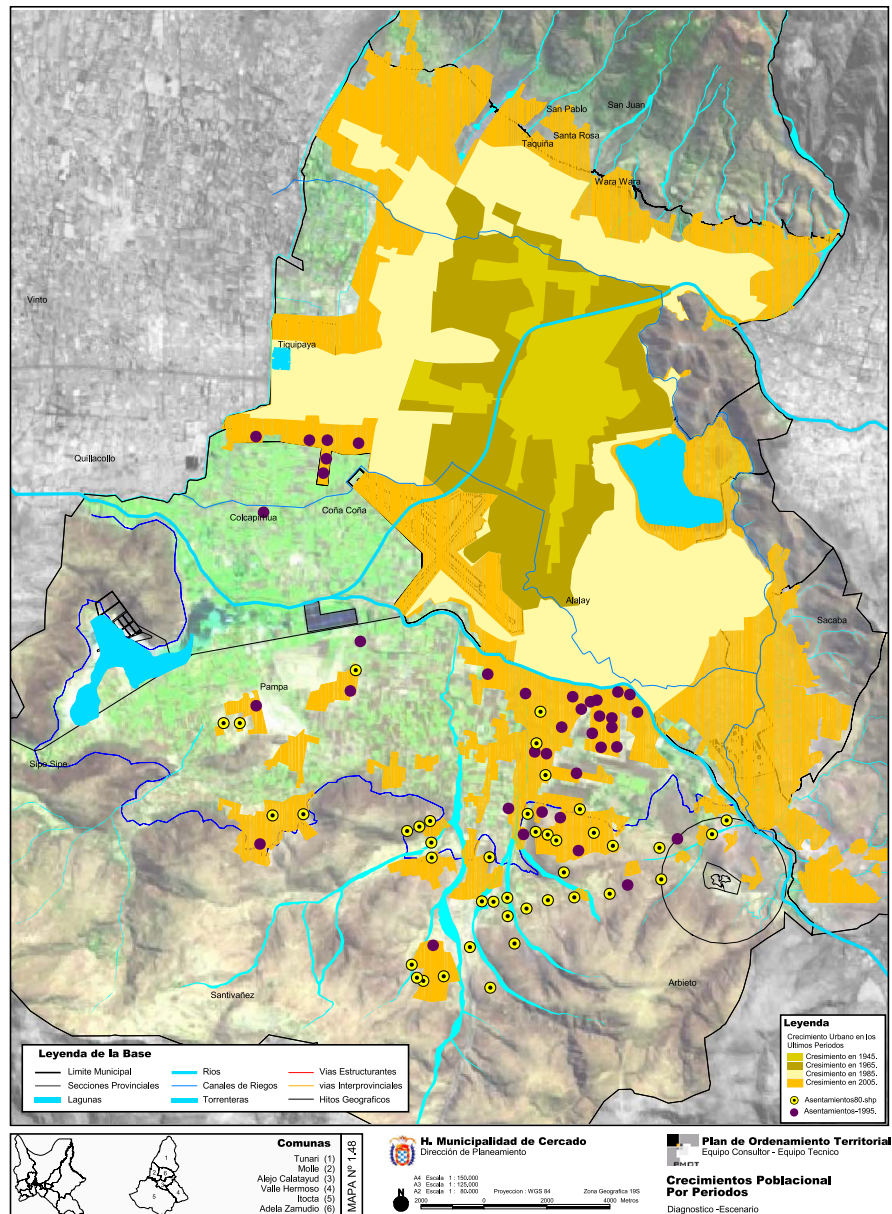




Map 4: Districts 5, 6, 7, 8, 9 and 14.

Most DWCs appeared following the second wave of migration into the Zona Sur during the 1980s, outlined earlier in this chapter, and the migration has continued into district 9 more recently (highlighted in Map 5). The Zona Sur is generally portrayed as poor, it uniformly ranks low on the human development index (see Map 6), but the poverty is not

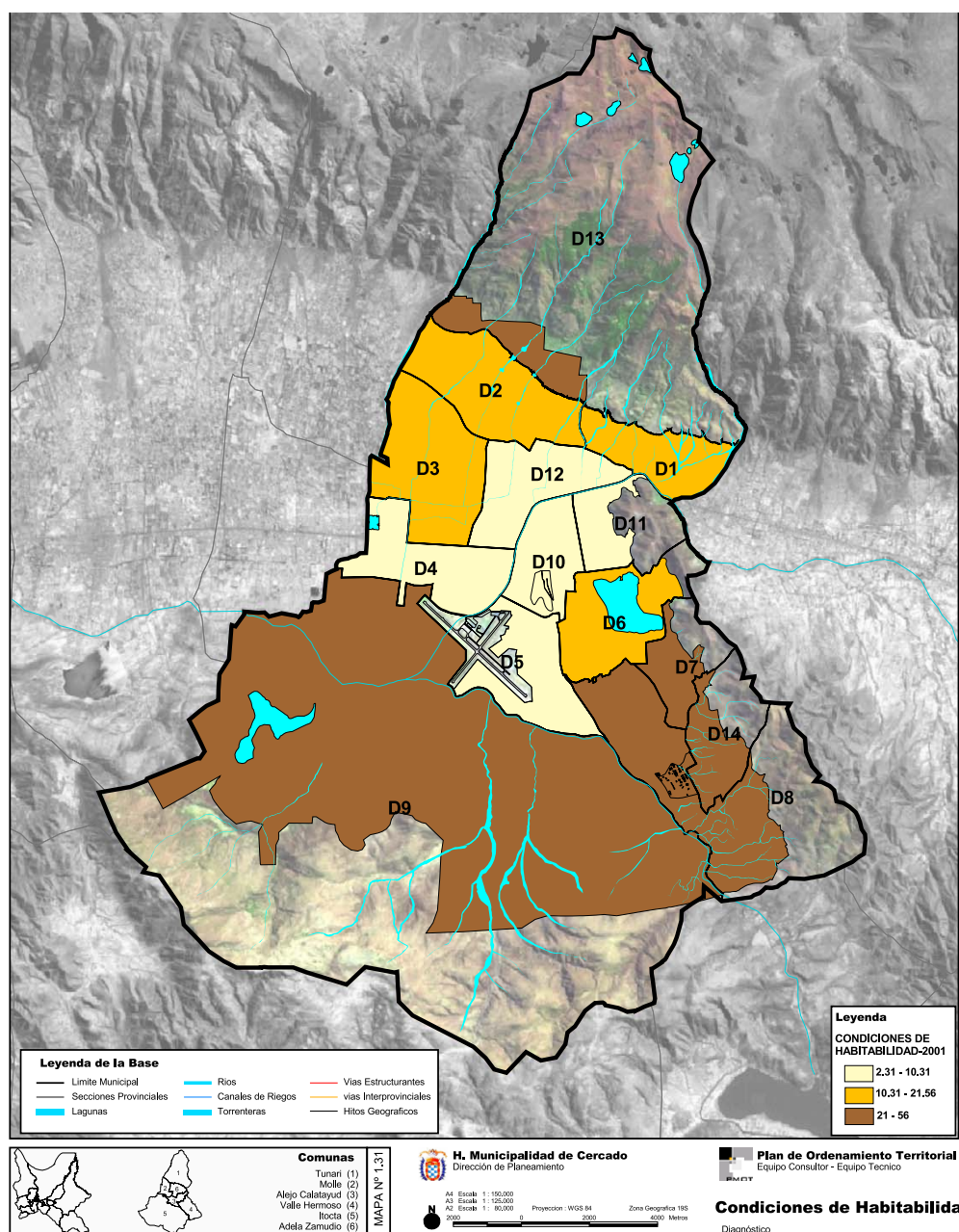
uniformly manifested. Poverty tends to be peripheralised southwards in the Zona Sur; the most recently settled populations have settled on the furthestmost and most inhospitable edges of the city. Poverty also manifests itself spatially within barrios, as the poorest residents live on the edge of communities (the reasons for this are discussed in more detail in chapter 7).



**Map 5: Urban expansion.** [Orange highlights regions that were consolidated up to 2005. Yellow up to 1985 and the browns between 1945 and 1965]



Some communities (although these are not the poorest) have driven basic service provision in the Zona Sur. Over time the state and diverse NGOs have provided or co-produced some basic services here (this process is discussed in more detail in chapters 6 and 7). Some communities have developed basic services more efficiently than others.



Map 6: Human Development Index by district Cochabamba 2001

It is estimated that 50% of the water in the Zona Sur is provided by committees (Ledo 2009: 85). There are pockets of provision that emerged

prior to the privatisation of water provision, they have, however, proliferated in the years following the water wars as a result of the church and private foundations that were established to support community water providers in the wake of the Water War. Peri-urban communities in this region are more internally fragmented and disjointed than those of the irrigators and the mining and dairy farming communities in the west. This is a consequence of the mixed migration and the fact that many of the residents in these communities return to the country for seasonal work or only come to the city temporarily, for example students during term time (this is discussed in further detail in chapter 7).

There are communities in the Zona Sur that are not, (or were not immediately), recognised by the state, and so they cannot (or couldn't) access decentralised state funds. Even if they are formally recognised, LPP funding may not be sufficient for them to develop a water system in view of the physical challenges of developing a water system in the Zona Sur. The financial and human cost of maintaining and developing systems in this area is high because of the difficult terrain and limited water supplies. Water systems tend to consist of one or two wells and a small pipeline. They are managed and maintained collectively or with the help of the church or NGOs operating in the region. As a rule, there are individual connections to each household. Committees and associations are structured around local uses and customs based on ideas of mutual aid.

The scarcity of water in this region, allied to the population density, lack of sanitation and presence of polluting industries, means that water in this part of the aquifer is declining and becoming contaminated by domestic and industrial sources (Ghielmi et al 2008). Many of the physical and social features described above undermine communal provision in peri-urban areas. Dwindling water supplies and poor management of water committees leads to conflict with vecinos who feel that the residents' association might be better placed to manage the water system.

Conflict over access to water sources has also arisen between communities as increasing population has led to increased competition for water resources. Chapter 7 draws on ethnographic material gathered in one community characterised by conflict in the Zona Sur. The chapter explores the role of DWCs, their capacity to meet the water needs of their members and the broader implications that DWC-led provision has for local environmental integrity.

Water committees proliferated here during the 2000s with the support of the church and water-focussed NGOs and the post-water war climate (discussed in the following chapter). While SEMAPA had been reinstated, their plans to extend provision to the Zona Sur did not come into fruition. In the vacuum that was left, the water committees of the Zona Sur federated to form ASICASUDD-EPSAS. This association, formed in 2004, has provided marginalised peri-urban water providers with a platform to interact with the state and NGOs and to advocate an alternative model for water provision in the Zona Sur, based on the *co-gestion* or co-management of water services. Associations and federations of irrigators and peri-urban potable water providers have successfully accessed state and non-state funding and support, but more significantly, they have established alternative channels of engagement and institutional and legislative arrangements with the state. In practice this means that the association has had to formalise and demonstrates institutional inter-legality (outlined in chapter 3), which is discussed in more detail in chapter 6.

### **Water committees in the dairy-farming region**

The rapid expansion of Cochabamba into the Zona Sur during the late 1980s enveloped some pre-existing dairy farming communities. These communities are found in the region surrounding the airport called La Maica (see map 2). Here it is commonplace to find community-managed wells that tend to provide water for cattle. Water is abundant in the region but tends to be saline. The community funds improvements to their system through money they can access through their resident's

association from the municipality (OTB), not dissimilarly to Villa Juan 23. La Maican communities have built their water systems themselves, and tend to manage them from within the community. They have water committees that are linked to their OTBs or resident's associations. The OTBs or resident's associations have presidents who represent water Committees in negotiations between the municipality and NGOs operating in the Zona Sur to support communal water providers. In La Maica, this tends to be the NGOs Aguatuya and Water for People, not the association of DWCs ASICASUDD-EPSAS. As demonstrated in the following chapter certain NGOs work with certain community water providers, often reflecting local politics or for reasons that are unclear.

Not all communities in this region have a water committee, as the region's water can be too saline; those that do supplement their water supplies with water from the aguateros (water vendors) to varying degrees, as the water is prioritized for cattle, but can be too saline for human consumption. These communities are well organised, they tend to have residents' associations and have been in a good position to take advantage of funding from the state through the LPP and the increasing numbers of international and Bolivian NGOs operating in the region.

### **The most marginalised communities**

Migration to the Zona Sur continues today, barrios continue to expand and new informal barrios continue to emerge on the very fringes of the municipality and in the most barren mountain regions to the southeast and south west of the city. These communities are established in the regions that have been avoided by earlier settlers, perhaps because of the elevation, the incline and proximity to a waste dump or the absence of a water source. This is symptomatic of the on-going peripheralisation of the most extreme poverty, which forges the most marginalised communities in the region, the majority of which are not yet recognised by the state.

Some of the newest, and simultaneously most remote, barrios do not have residents' associations let alone water committees. This can be as a result of lack of will on the part of the community, insufficient subterranean water sources, or a lack of collective capital to make the initial investments in infrastructure. NGOs work and some of the most recent government initiatives do not extend to these regions because they are recently established communities and may not have a residents' association or cohesive neighbourhood council. As the region is so disparate and perceived as dangerous, NGOs find it difficult, or are reluctant, to work with these communities and so one does not find the capacity building, or infrastructural projects that communities in La Maica and Villa 15 de Febrero have.

People here rely on water vendors, (*aguateros*), who deliver all over the barrio, often supplementing the water of SEMAPA customers and water committees during the dry season. This is the most expensive water, which generally cost £2.50 per cubic meter in the Zona Sur at the time of writing, while SEMAPA customers in the centre of the city pay 36p per cubic meter. Water quality is dubious, with tankers filling up from sources all over the municipality, sometimes these are formal wells other times using contaminated water sources (the role of the *aguateros* are discussed in more detail in chapter 7). Water tends to be delivered to and stored in barrels called *turils* outside each house. Water from *aguateros* becomes expensive in the more remote mountainous regions of the Zona Sur that are more difficult to reach, but this is where the cheapest land is; the price of water can almost double depending on the elevation of the community. These regions are neglected by the state and receive some support from the church, missionaries and some charities that operate in the area. The communities in these areas are some of the most marginalised in the municipality. They are often informal, i.e. not formally recognised by the state and so there is little or no public basic service provision and thus the residents do not have the same rights as people who live in the centre of the city, or even in less peripheralised communities such as Villa 15 de Febrero. Communities here may not pay

taxes regularly and tend to have weak connections with the state. They have low expectations of the state in the light of their experiences, and so they rely on coping strategies for water provision that can be expensive or dependent on charitable and church initiatives.

## **Conclusion**

This chapter has attempted to map out the Cochabamba waterscape. We can conclude that the universal municipal model has never been rolled out here. This is principally a failure to develop infrastructure for the poorest on the edge of the city, but not solely. Community providers exist across the board. There is consequently a diverse patchwork of water providers of different sizes that serve the needs of the municipality, each using and sharing different sources. In this chapter I have outlined the different and contested water sources. Then I have attempted to demonstrate how diverse and dynamic forms of community-managed systems have emerged in the region. Chapter 4 demonstrated how the state is attempting to engage and develop community water providers in per-urban areas. This chapter was an attempt to set out how diverse community water providers can be. It demonstrated that the idea of community-managed water is ambiguous and often refers to collective action for water provision. Most systems are not wholly self sufficient or autonomous. Furthermore, the poorest communities do not instigate community-led water provision. Indeed this chapter demonstrates the success of the relatively affluent suburban potable water committees and also of the relatively affluent irrigator communities. This means that the approach that the state is embarking on, that is advocating and supporting community-led water provision, might not have the potential to reach the poorest. However, the following chapter demonstrates that poorer peri-urban DWCs have had some success by working together to build and co-produce water services with the state or with the support of NGOs or development agencies.



## Chapter 6: ASICASUDD-EPSAS

This chapter focuses on the role of the organisation ASICASUDD-EPSAS (The Association of Communitarian Water Systems and EPSAS of the Zona Sur and the department). As the principal association of DWCs in Cochabamba, it brings together 42 of the estimated 149 DWCs in the Zona Sur of Cochabamba and has played a key role in developing peri-urban DWCs. It has also become a gatekeeper to the peri-urban interface for NGOs and has facilitated state initiatives on peri-urban water provision since 2006. ASICASUDD-EPSAS provides a lens by which we can explore a whole range of processes and dynamics that affect water provision in peri-urban areas. This chapter therefore investigates how community based water provision has developed in Cochabamba, and how this relates to reforms around the right to water. It considers how the right to water is contested, and it also looks at how reforms have been implemented. In turn, it explores the relationships and politics behind the diverse actors that support water provision in peri-urban areas.

The association was established around the idea of the *co-gestion* (co-management) of water services, and presents an alternative model to municipal system developed by SEMAPA. *Co-gestion* is a model of water provision for the peri-urban interface. It is premised on community-led water management that is supported by the state funding for infrastructure and/or supply of water. This chapter presents the background and history of the association and the idea of *co-gestion*. It then considers how the organisation has come to engage with the state by facilitating the work of new institutions, channelling funding, and supporting new initiatives around licences and regulation.

### **ASICASUDD-EPSAS representing DWCs in the Zona Sur**

ASICASUDD-EPSAS was established in 2004 and is a formal association of DWCs that represents at least 42 providers in district 7, 8 and 9, each of which provide to between 42 and 950 household (see

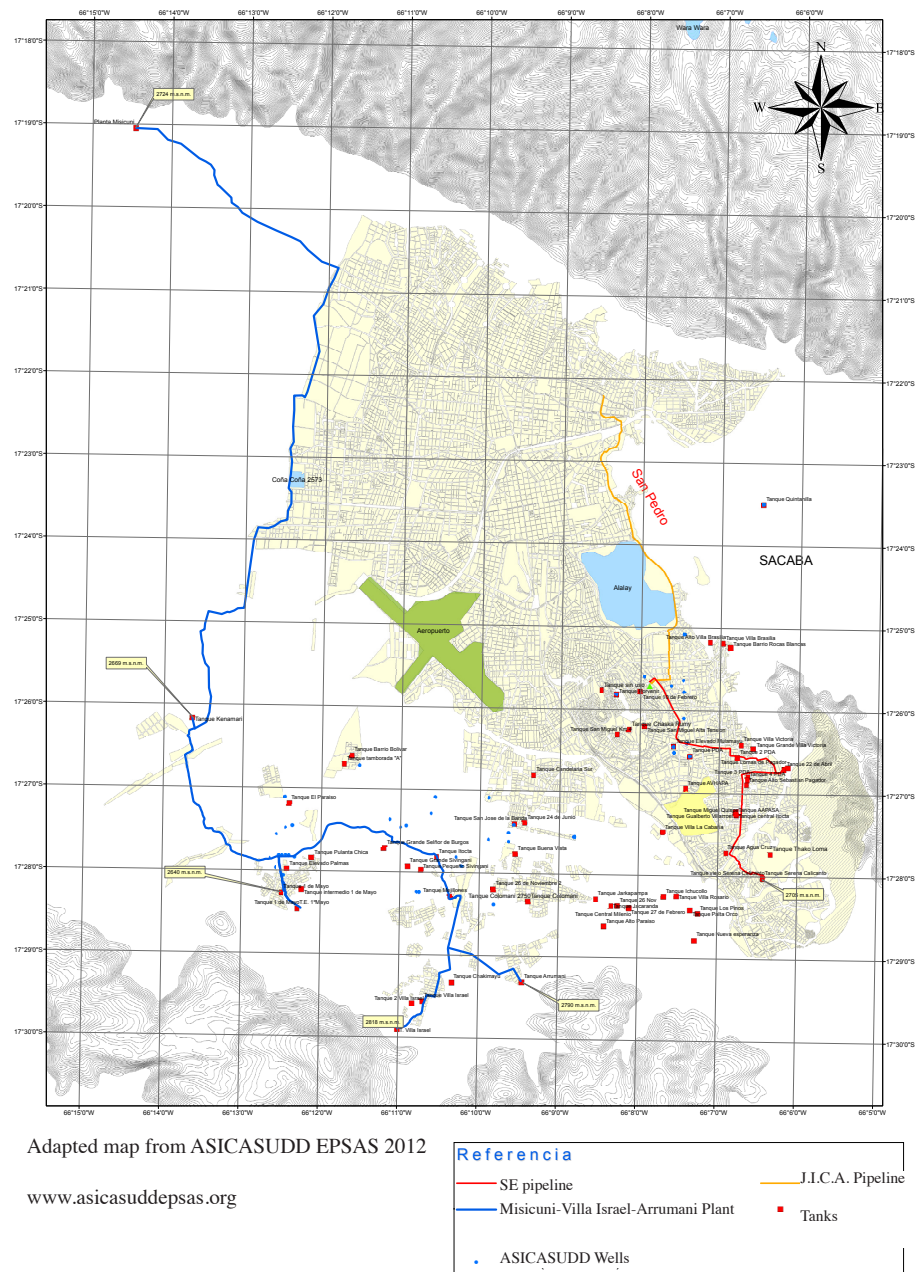
map 7). Its origins will be discussed in more detail in the following pages, but it has, in principle, been forged in opposition to the established municipal model, which has failed, and it operates in the premise that *co-gestion* is the most effective way to improve water provision in the Zona Sur. This in principle means that water services are managed and produced by both the state and communities, and so is a form of coproduction. Meaning the joint and direct involvement of citizens and public agencies to deliver a particular service (Ostrom, 1996: 1073). This is undertaken through a regular long-term relationship between state agencies and organised groups of citizens, where both make substantial resource contributions” (Joshi and Moore, 2004:1). The coproduction of water services can involve the state and the community taking on a variety of roles. In this instance it is based on the idea that water should be supplied by SEMAPA or the state, and that ASICASUDD-EPSAS should manage its distribution to DWCs who in turn distribute to the community using existing water systems.

By linking over 40 DWCs, ASICASUDD-EPSAS has developed the capacity to engage with the state and SEMAPA. DWCs are often undermined because of their illegitimacy and because they operate on a different spatial scale to the established municipal model and provider SEMAPA. The association has power in numbers, and has negotiated buying in some water in bulk from SEMAPA for communities where wells have run dry. It has also received some funding and support from the state for projects to improve infrastructure, as will be discussed later in this chapter. It has political leverage, having organised marches demanding support for the model of *co-gestion* (see figure 6).



Figure 6: ASICASUDD-EPSAS march

It also has established links to the numerous NGOs and social organisations working on water in Cochabamba since the Water War. More recently it has become a representative of the Zona Sur as the state has engaged with it over planning for the peri-urban interface and water provision. Consequently the association has developed alternative models of water governance for the Zona Sur in preparation for the completion of the Misicuni project, which it is currently lobbying for (see map 7) and will be discussed in more detail in this chapter.



Map 7: The Wells and Tanks of ASICASUDD-EPSAS DWCs, the JICA pipeline and proposed new pipeline for Misicuni water

In sum, ASICASUDD-EPSAS presents an alternative peri-urban model to the established municipal model that has failed the Zona Sur in the past. Budds and Hinojosa present a comprehensive review of academic

literature that demonstrates how scales and boundaries relating to natural resource governance “*have been repositioned as the products of processes of social definition, contestation and struggle.*” (2012: 123). ASICASUDD-EPSAS’ work is indicative of an on-going struggle over the scales of water governance in Cochabamba, and who can and should legitimately provide water in the peri-urban interface. Reforms linked to the right to water can be framed as the latest attempt not only to tackle water provision, but also to consolidate state control over the water sector. This chapter demonstrates that ASICASUDD-EPSAS has the potential to be an institution that facilitates this process, or perhaps which has the potential to re-mold the shape of water governance in the Zona Sur, according to its model of *co-gestion*.

### **A social organisation**

ASICASUDD-EPSAS is a social organisation, and not a social movement. It works to support its member DWCs. It has been forged around an idea of communitarian water management, ideals of mutual aid and reciprocity, and the discourse of uses and customs that was galvanized following the Water War. In that sense it is similar to, and has taken inspiration from, social movements such as FEDECOR (the federation of irrigators discussed in chapters 5 and 3). However, it is not politically affiliated with the MAS in the same way. This was a deliberate decision in an attempt to avoid relationships that could be perceived as clientelist. A representative of ASICASUDD-EPSAS quite firmly explained this to me on our first meeting.<sup>52</sup>

As outlined in chapter 5, the association represents a specific group of DWCs, predominantly in districts 8 and 9 of the Zona Sur, many of which were established with the support of the church (this will be discussed in this chapter and chapter 7). These DWCs tend to rely on local aquifers sources that are becoming depleted and are contaminated by numerous industrial and residential sources

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<sup>52</sup> ASICASUDD-EPSAS representative, Cochabamba, November 11th 2009

(discussed in more detail in chapter 7). Not all DWCs want to be part of the association. Some DWCs prefer to operate independently. It is estimated that there are 149 committees in the Zona Sur, and ASICASUDD-EPSAS represents less than a third of these. Nonetheless, it is the only organisation that represents collective DWCs in the peri-urban interface and thus has more visibility and greater capacity to engage with state and non-state actors as a result.

To understand ASICASUDD-EPSAS, it is useful to consider its origins. Today, the organisation is independent and run by and on behalf of the committees, but it began as an organisation that was supported by SEMAPA. In the years that followed the Water War, the social movements and activists that had been central to the rebellion, specifically the *Coordinadora del Agua*, lobbied for '*progressive reforms*' to SEMAPA and the water sector as a whole (Terhorst and Gomez: 127). Additionally, in the wake of the Water War there was a willingness on the part of the state to engage with the social movements. Consequently a space was created for civil society participation in the management of SEMAPA in the urban centre, while there were initiatives to encourage and develop the DWCs in the marginalized peri-urban communities in the south of the city. This began with a project that involved activists from the *Coordinadora del Agua* and the coordinator for SEMAPA projects in the Zona Sur at the time, Salvatierra. Salvatierra had been heavily involved in capacity building local DWCs and the Centro Vincente Canas before the Water War. The 'Social Committee for Life' was established to promote coordination between committees, to strengthen DWCs as institutions, and to create an umbrella organisation so that the DWCs of the Zona Sur were able to interact with SEMAPA. This process was led by NGOs, activists, the church and SEMAPA, and it reflected some of the discourses and demands that had arisen out of the Water War. These included social control, protecting and galvanizing communal water providers, and developing new forms of public water management that incorporated community and citizen participation (Granddiddy 2006).

The Social Committee for Life did not last, and was soon replaced by ASICASUR (now ASICASUDD-EPSAS), led by Abraham Grandiddyer. The organisation is horizontally structured but with a representative president that is democratically elected. However, over time it has been forged around the central figure that has led the organisation since the beginning. Grandiddyer had been the president of a long-running DWC Primer de Mayo, and played a key role in the Water War. This is not unusual and, several other social movements that have focused on water, including FEDECOR and the Coordinadora have prominent leaders that have come to define the organisation.

There had been one alliance of committees before, under Salvatierra, but he soon abandoned us. By that point many of the committees had lost faith in him anyhow. And then Abraham came in, and he spoke with more vigour, he was a stronger leader, and he started bringing together various water committees, we were 12 then 24 then 32...<sup>53</sup>

Unlike Salvatierra's organisation that had come before it, a DWC leader led this organisation. It was based on horizontal, grassroots principles. Ultimately the directorate is answerable to the assembly of representatives of drinking water committees. The directorate is made up of 5 elected members who receive no financial remuneration. The president is however central to the organisation. As the words of the water secretary demonstrate, DWCs were looking for a strong leader to guide them during this time. The organisation emerged in the post-Water War climate, and much of the impetus came from activists and funding from the church (Grandiddyer and Tinto: 244). It is often taken for granted that most of the DWCs played a role in the Water War, and were driving this process. While the Water War provides a strong discourse that galvanizes organisations like ASICASUDD-EPSAS, many of the DWCs that are part of ASICASUDD-EPSAS, did not participate in the Water War, particularly those in the southern and more western parts. Furthermore, some DWCs joined the organisation

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<sup>53</sup> DWC Secretary, Cochabamba, June 2nd 2010

because they were in need of institutional support, or saw it as an extension of church-led initiatives that were being undertaken in the region over time. (This process is discussed in more detail in the following chapter).

The impetus for the formation of the organisation was to create a platform for the participation of peri-urban water committees in the development of better water provision for the Zona Sur, principally according to a model of *co-gestion*.

(We) demand that water should and will be managed by its users, that is to say, communitarian management should exist, because it is the only way to ensure all citizens access to this vital resource. ASICA-SUR<sup>54</sup> intends to consolidate this vision by advocating a system of co-gestion of water services, and to work as a negotiator with external actors”(Granddyyer 2006: 246)

In sum the idea of *co-gestion* seeks to build new relationships between peri-urban communities and the state to produce water services in the Zona Sur. As discussed in the previous chapter, the LPP (Popular Participation Law) channelled funding from the municipality to formally recognized neighbourhood committees some of which was used to build and maintain community water systems. This in itself could be framed as a form of coproduction. In the Zona Sur, this process was limited because some of the communities are not formally recognized by the state. Further, some communities felt that the LPP did not provide them with sufficient funds and agency for local development<sup>55</sup>. The galvanization of the committees through ASICASUDD-EPSAS, and the proposal for *co-gestion* of basic services thus presents an alternative paradigm for the development of local water services.

The paradigm of *co-gestion* reflects the challenges and opportunities around water provision in the peri-urban interface. The state has failed to provide a mainline system of water provision across the municipality. This has led to the emergence of diverse communal providers (as set

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<sup>54</sup> This is the original name for ASICASUDD-EPSAS

<sup>55</sup> OTB Treasurer Villa 15 de Febrero, Cochabamba, August 2nd 2010



out in chapter 5). However, there are certain challenges which undermine the capacity of DWCs in the peri-urban interface, namely limited and contaminated subterranean water supplies (as discussed in chapter 5 and 7). ASICASUDD-EPSAS provides a platform by which DWCs can collectively engage with the state, NGOs or development agencies to secure funding or support to tackle or address some of the challenges that exist around water provision at scale. The idea of *co-gestion* for water provision has legitimacy, because SEMAPA does not currently have the capacity or the funding to extend provision into the Zona Sur.

### **Forging a sense of community in the peri-urban interface**

ASICASUDD-EPSAS has forged an identity around ideas of traditional community-led water provision and uses and customs, which is not dissimilar to that of the irrigators of Cochabamba and the social movement FEDECOR. Ideas of community-managed water systems gained ground in the early 2000s in the wake of the Water War and its demands around protecting local water systems. The association draws on the collective ideologies of rural indigenous and peasant organisations and the social organisation of mining unions to create a shared history and identity, if somewhat romanticised.

The population that form part of the water systems in the Zona Sur originate from the west of Bolivia, and are a mix of rural migrants and miners that have been relocated. Both of these characteristics have strongly influenced the communitarian organisations that have emerged to provide water. There is a strong Andean cosmovision in the rural areas that is based on ideals of communitarianism and solidarity... the contribution of the relocated miners was the union experience and its solid organisational structure, and their knowledge of the implementation of technology, in the management and construction of infrastructure for the transportation of water..." (Granddyyer 2006: 241 author's translation).

The essentialisation and romanticisation of indigenous and mining social structures, and the idea that certain structures of social organisation can be transplanted to the peri-urban interface is somewhat dubious (Zibechi 2009). In practice DWCs often bear little

resemblance to indigenous or mining systems of social organisation, (as discussed in the following chapter). However, any resemblance between the DWCs and forms of organising and social structures from mining communities past are drawn upon to create a sense of continuity. This selective collective memory is used to create a shared sense of identity (Halbwachs, 1992). This is a useful tool for communities in the Zona Sur as they attempt to consolidate their community and the DWC. This is a region that has been acutely fragmented by successive waves of migration and transient populations.

Rural and mining migrants have drawn on indigenous and union identities, many of which have been elevated as a result of the election of Evo Morales, and the role of the social movements within the *pluri-national* state of Bolivia.

Gill (2000) highlights how rural-urban migrants have sought out collective systems of organisation in El Alto, when faced with the increasing individualisation of urban societies (this is discussed in chapter 7). Rural urban migrants in peri-urban areas are accustomed to developing collective systems for basic service provision and community organising. The idea of recognising and mixing collective traditions to create new forms of communal structures to defend and manage natural resources have been popularly advocated by Bolivian activists (Lazar, 2008: 11). Meanwhile, since the election of president Morales the state has endeavoured to recognise indigenous and campesino communities and organisations. This is part of the project to establish the '*pluri-national*' and thus incorporates the juridical plurality that characterizes Bolivia. This has manifested in reforms to recognise indigenous councils, autonomy, and the rights of indigenous communities to govern the development of their regions (Canessa 2012). Within the water sector this entails recognising the rights of communities to manage their water supplies according to their uses and customs. This is quite feasible in the rural valleys, and the lowland tropics areas where neatly delineated CBOs, and embedded

established communities, manage enclosed water sources. However, in the dynamic peri-urban Zona Sur, communal water providers are more complex. Communities might consist of migrants from across the country and they may have weaker links with the regional indigenous social movements and unions. ASICASUDD-EPSAS mobilizes and merges traditional discourses of community management to anchor the social organisation it has established in the Zona Sur, thus forging a collective identity to galvanize the peri-urban water systems that they have speedily developed since the 1990s. This identity is useful as the association attempts to unify disparate peri-urban communities to create a collective unit which can engage with the state, NGOs or development agencies, as will be discussed in this chapter.

Indeed, ASICASUDD-EPSAS's struggle is quite different to that of the rural DWCs and irrigators. It has not been established to secure water sources that can comprehensively meet the needs of the community, or to enclose water resources or to demand exclusive water rights. It would be impossible to do so with an aquifer that supplies water with countless other users, and which is often contaminated and is fast becoming depleted (Ghielmi, Mondaca et al. 2008). ASICASUDD-EPSAS is instead demanding the rights of communities to manage their water systems in partnership with the state, and further, to contribute to state planning around water governance and legislation. While the DWCs of ASICASUDD-EPSAS collectively organize around ideas of mutual aid to provide water to the community, somewhat similarly to rural water provider, they also seek to participate in broader discussions and planning for urban water management that are specific to peri-urban areas. As this chapter and the following will demonstrate, the Zona Sur has not been subject to any form of integrated planning. ASICASUDD-EPSAS is attempting to shape and influence new projects and reforms aimed at tackling water provision in peri-urban areas.

DWC leaders as part of ASICASUDD-EPSAS are willing to participate extensively in the development and management of their water services,

and also wider debates around water governance. In sum, the organisation is not solely focused on developing water provision in peri-urban areas at the community level. It works to promote an alternative ideal for water provision in the peri-urban Zona Sur, which subverts the pre-existing municipal model. ASICASUDD-EPSAS provides a conduit by which marginalized peri-urban communities can shape or even attempt to subvert local and municipal development. In practice this has become an alternative water paradigm to that pursued by the municipal utility SEMAPA. Reforms to the water sector since 2006 suggest that there is some room for to engage directly with the newly established institutions in the water sector, including the Ministry for Water and organisations such as SENASBA. Before considering that, I begin by setting out the association's contested relationship with the municipal provider SEMAPA.

### **ASICASUDD-EPSAS and SEMAPA**

Despite the central state rhetoric since 2006 that suggests a commitment to incorporating and recognising the role of community-level providers, the public utility SEMAPA continues to plan for the expansion of the municipal water system into the Zona Sur.<sup>56</sup> The role and position of DWCs and ASICASUDD-EPSAS in the municipality is thus contested by SEMAPA. DWCs in the Zona Sur have become something of a thorn in the side of SEMAPA. Not only do their continued presence in the area highlight the shortcomings of SEMAPA and the state, also, DWC leaders regularly and publicly denounce the failings of the utility in the Zona Sur. During a public meeting held as part of events to commemorate a decade since the Water War in April 2011, a renowned DWC leader in the Zona Sur began the event by dressing down SEMAPA.

We in the Zona Sur, we fought in the Water War, but in the 10 years following the Water War, what have we received from SEMAPA in the Zona Sur? Not even one drop.<sup>57</sup>

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<sup>56</sup> Senior SEMAPA employee, Cochabamba, October 12th 2011

<sup>57</sup> DWC leader, Water War +10 public meeting, April 17<sup>th</sup> 2010

The DWCs present an alternative vision for water governance in the municipality. Community-led water provision propped up by the state, and this in turn has the potential to further compromise a utility that is already underperforming. Their models for water governance are therefore somewhat contradictory, although they do often overlap, as the following section demonstrates.

I met with a SEMAPA representative, who has been coordinating the development of projects to improve access to water in the Zona Sur since 1995, to discuss SEMAPA's plans for the area and their relationship with ASICASUDD-EPSAS. He argued that the only way to improve access to water in the Zona Sur was through the expansion of SEMAPA's network and influence, and the development of an integrated universal water system.<sup>58</sup> I undertook interviews with 3 different SEMAPA employees and each one contended that DWCs were unsustainable providers for peri-urban areas in the long term, and were thus a temporary feature of the Zona Sur. Consequently, there have been multiple proposals to extend state run water provision into the area since the early 1990s, but the only infrastructural project to have been completed by SEMAPA in the Zona Sur is the JICA-funded expansion project. This project extended a system of pipelines to 18 barrios with an estimated population of 50,000 people in the south west of the municipality where numerous DWCs operated (see map 7). This involved developing infrastructure, including pipes, tanks and pumps for distributing water, and increasing the capacity of a local water treatment plant. The project was inaugurated by President Morales, who ceremoniously 'opened the tap' (see image in September 2011 and was widely hailed as a (rare) SEMAPA success story in the Zona Sur (Heredia 2011).

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<sup>58</sup> Senior SEMAPA employee, Cochabamba, October 12th 2011



Figure 7: Evo opening the tap to the JICA project

The principal coordinator of this project also explained in the weeks following the inauguration that the system was not actually functioning yet.<sup>59</sup> SEMAPA did not have enough water to distribute to the barrios, and so it would begin operating at full capacity once the Misicuni dam project was completed. The coordinator explained that several of the communities that are part of the project either had DWCs or water systems run by residents associations before the JICA project. Consequently, when the network begins operating they have requested that they retain control of the water system through a macro meter installed for each barrio. The DWC or residents will then assume responsibility for collecting funds, and are unwilling to relinquish all control over their water system. I asked a woman who is both an employee of an NGO that supports DWCs in the Zona Sur and a DWC member, why the communities had come to this arrangement, and she explained,

We don't trust SEMAPA... SEMAPA provides water to district 7 using macro meters, and charges 2.37 Bolivianos per square meter (this is cheaper than water provided by the committee)... But SEMAPA has started charging for air<sup>60</sup>, and in Villa Venezuela too. They do not always have water, sometimes it is only once a week, and they are being charged for water they don't use...so there are residents who have seen this experience and they don't like it... the community has lost

<sup>59</sup> Senior SEMAPA employee, Cochabamba, October 12th 2011

<sup>60</sup> This refers to meters counting air running through pipes as opposed to water used

control of water provision, SEMAPA has connected directly to the pipelines. We have learnt that it is better if the community stays in charge of the distribution.<sup>61</sup>

Despite the development of new water infrastructure, DWCs are evidently unwilling to relinquish control over water management. This is fuelled by SEMAPA's past failings, but also the established role of a DWC and the community's faith in it. This begins to explain why organisations such as ASICASUDD-EPSAS advocate and lobby for the *co-gestion* of water services. This is a method that will allow the DWCs to avoid being reliant on SEMAPA, and to ensure that they receive sufficient water and are charged an agreed price for the water that they use. The continued role of DWCs in the Zona Sur also reveals how communities that have been politically and socially marginalized, have developed some political and social leverage to be able to negotiate with SEMAPA and the state, thus retaining a role in local water governance. SEMAPA have in turn engaged with the DWCs and created spaces for the community to manage the water service at a local level. DWC leaders are often keen to retain a role in water provision, because it is the product of the decades of on-going struggles, meanwhile, community members have made extensive physical and financial investments into their local water systems. Chapter 7 demonstrates that community-managed water systems also have social and cultural significance for many. This is not simply a struggle to guarantee access to water. It has simultaneously become a struggle for legitimacy, control and political agency, but on their own terms. DWCs are asking that their distinctive ways of organising and living that have developed over time are recognised.

### **A gatekeeper to the Zona Sur**

ASICASUDD-EPSAS has endeavoured to be recognized as an association of water providers and over time it has gained legitimacy, and political recognition. It is a group that the state now consults and

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<sup>61</sup> NGO employee and DWC member, Cochabamba, August 5th 2011

engages with on issues of local water governance, as well as national reforms to the water sector and legislation. Despite representing less than half of the water committees in the Zona Sur, ASICASUDD-EPSAS provides a platform for state engagement with ‘the peri-urban interface’ on water provision. They have in essence become representative of the DWCs that exist in the Zona Sur. The association allows the state to interact with multiple DWCs, making the peri-urban interface more tangible. It has thus been a conduit for the delivery of state projects and reforms in the Zona Sur.

This, in turn, has made the association more formal. Indeed, the organisation has started to change and to reflect and fit in with the norms and structures of the state: a form of institutional interlegality. ASICASUDD-EPSAS was originally known as ASICASUR, *The Association of Communitarian Water Systems of the South*, and then in 2010, it reformed and changed its name to ASICASUDD-EPSAS *The Association of Communitarian Water Systems of the South, the Department and EPAS*. This highlights the association’s commitment to formalising and developing DWCs so that they are formally recognized by the state as EPSAS (water and sanitation providers). It also reflects the organisation’s acceptance of the new water politics that was emerging from the new constitution<sup>62</sup>. This is a change in direction, from the organisation that established its self as an association of water providers aspiring for an alternative form of water provision led by peri-urban communities, to a platform firmly committed to engaging with state reforms. Their new title also reveals broader ambitions in light of the new political climate, to link up with other communitarian providers outside the Zona Sur in other parts of the department, and to act as a bridge between the state and other community water providers.

If we consider two recent and notable state-led projects for the water sector, ASICASUDD-EPSAS have been consulted with on both, the

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<sup>62</sup> see ASICASUDD-EPSAS.org



Misicuni dam and an Inter American Development Bank (IAB) planning project on Water and Sanitation in peri-urban Areas: Peri-urban Phase I and II. First the Misicuni dam project. This project has incorporated the participation of ASICASUDD-EPSAS as a representative of the DWCs of the Zona Sur, alongside representatives from the municipality, irrigator groups, the MMAYA and SEMAPA (Misicuni 2010). As outlined in the previous chapter, project works are set to finish in 2015, but there is still no funding for infrastructure to deliver Misicuni water to the Zona Sur, even though it has been prioritised by the state (Caero 2009).

As a result of this engagement ASICASUDD-EPSAS has developed proposals and argued that Misicuni water should be delivered to the Zona Sur according to principles of *co-gestion* linking SEMAPA and ASICASUDD-EPSAS. They have presented plans to the MMAYA to develop a series of supertanks that could supply the pre-existing water committees belonging to the association (see pipelines on Map 7). ASICASUDD-EPSAS argues that this provides a more economical solution in the Zona Sur as it requires less investment in infrastructure, while also protecting the DWCs and their demands to retain a role in water management. Second, the state has received funding from the Inter American Development Bank (IAB) to undertake a scoping exercise to develop a master plan for basic service provision in peri-urban regions across Bolivia. The IAB's final report recognizes ASICASUDD-EPSAS as an operator and provider of potable water in the Zona Sur (IAB 2009: 44), and an organisation that provides an alternative model for water provision that could be incorporated into the development of a new water and sanitation master plan for the region.

However in the long term, encouraging the participation of ASICASUDD-EPSAS has not led to any substantial investments or reforms that have improved access to water or really engaged with, and funded, projects for the *co-gestion* of water services. The association's president Abraham Grandiddy reflected on this during our interview and surmised, "*We have yet to see clear policies that serve peri-urban*

*groups*". To date there has been insufficient will and resources to really support and develop the DWCs as legitimate water providers in the Zona Sur.

### **The DWCs and the right to water**

In the following section how ASICASUDD-EPSAS and its affiliated DWCs understand the right to water. Consultations are on-going around a new water law that is set to incorporate many of the institutional and constitutional changes that have already been made since 2006 (as discussed in chapter 4). These events have been organized across the country with social movements and associations of small-scale water providers. Some have been organized by influential NGOs such as Agua Sustentable, while others have been organized by the state. ASICASUDD-EPSAS committees have participated in several such events. During the *Cumbre por el agua y el Saneamiento Basico* in Cochabamba in June 2011 in which I participated, it was clear from speeches made by the president, Granddiddy, and workshops with DWCs belonging to ASICASUDD-EPSAS, that DWCs agreed with the idea of the human right to water in Bolivia as a commitment to guaranteeing sufficient access to good water. However, they argue that in the Zona Sur a mix of public and community water networks premised on *co-gestion* is required for the right to water to be realised. Generally, they argued that communities and citizens must participate in water provision in order for the right to water to be recognised. Whilst they agree with the principle that everyone should have access to safe and clean water, the 'right to water' is not something they have fought for.<sup>63</sup> While this is not necessarily incompatible with the current state rhetoric round community provision, they are in practice asking for more support (in the shape of resources and political will).

Some felt that human rights do not exist in the peri-urban Zona Sur, and thus were not something that they should actively pursue to improve the

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<sup>63</sup> *Cumbre por el agua y el Saneamiento Basico*, Cochabamba, 25 -26 June, 2011 *Basico*, Cochabamba, 26 June, 2010

water sector. “*There are human rights in the cities but not here in the Zona Sur*”.<sup>64</sup> Others felt that the state’s deficiencies in the Zona Sur undermined the potential of a human rights approach “*There can be no human rights when the state is absent*”.<sup>65</sup> As there is no track record of human rights making a difference here, DWC members have little faith in the idea of the human right to water. It is for these reasons that peri-urban communities have not rallied to defend nor to demand their human right to water. In practice it appears they are suggesting that participation in the planning and production of water services could be more fruitful, and ultimately empowering.

As outlined by the president of ASICASUDD-EPSAS, Abraham Grandiddyer; “*What is written in the constitution, it does not mean anything in practice, local problems are not going to be settled by the right to water*.”<sup>66</sup> In other words, constitutional articles and laws will not solve peri-urban water provision on their own. The state, however, has a poor track record in ensuring water provision for peri-urban communities. It is for this reason that DWCs continue to lobby for community participation in water management and *co-gestion*, and not human rights. To surmise, the association has a precarious relationship with the state, it continues to struggle for legitimacy and agency. While it has provided a platform for state engagement, water provision in the Zona Sur is still significantly worse than in the centre of the city. Instead of struggling for state sanctioned human rights the organisation continues to pursue *co-gestion*, and a more participatory community-led system of water provision. The following section outlines some of the projects and funding that the association has secured in recent years to develop community-level water provision in the Zona Sur, and explores the impact they have had on water provision in the peri-urban interface.

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<sup>64</sup> DWC Participant workshop on the right to water, *Cumbre por el agua y el Saneamiento Basico*, Cochabamba, 25 -26 June, 2010

<sup>65</sup> DWC Participant workshop on the right to water, *Cumbre por el agua y el Saneamiento Basico*, Cochabamba, 25 -26 June, 2010

<sup>66</sup> Abraham Grandiddyer President ASICASUDD-EPSAS, Cochabamba, July 22 2011

### **Coproduction in the peri-urban interface**

ASICASUDD-EPSAS has struck up a range of partnerships in order to improve the water systems of member committees in the Zona Sur. In reality the association produces water services with a range of state and non-state actors. Different actors have supported the organisation to tackle different aspects of DWC-led water provision.

There are several international NGOs which undertake water and sanitation projects independently and in conjunction with the municipality within the Zona Sur, including Water for People and UNICEF. The Water War cast a spotlight on Cochabamba and revealed both the power of local communal providers, and the on-going water crisis facing the city. Since 2001 there has been an influx of NGOs and charities that either wanted to operate and provide projects in the Zona Sur, or to support and fund grassroots initiatives in the peri-urban interface. In the decade that followed, Cochabamba has become a hydric hotspot where research institutions, private businesses, and more recently, the state has operated to support water committees. Overtime, some NGOs have worked with the municipality, while others have come to support DWCs in a particular part of the Zona Sur, including those which belong to ASICASUDD-EPSAS.

These non-state projects and interventions have been undertaken haphazardly across the region and there is little integrated coordination across the Zona Sur. When I first arrived in the Zona Sur I tried to map the different water and sanitation interventions and projects that had been undertaken in the area since 2001. I visited Water for People to begin with, an NGO that has been working in Bolivia for over a decade and it became apparent that NGOs work with certain partner organisations. They are not always aware of the work that other NGOs and organisations are doing nearby. They are not even necessarily aware of the other actors working on water and sanitation in the Zona Sur. It was clear that certain communities and NGOs establish

partnerships and alliances and exclude others. Interventions and projects do not necessarily target the communities that have the worst access to water and sanitation. Instead their work often reflects the overarching politics or goals of the NGO or areas that are accessible, or where the organisation has pre-existing contacts. Using examples drawn from NGO projects in the Andes, Bebbington (2004) has argued that,

...The geographies of (NGO) intervention do not reflect the geographies of poverty and livelihood in the Andes, and their strategies of intervention do not respond to the economic and spatial dynamics of poor people's livelihoods" (ibid, 740).

Bebbington argues that this is because the objectives of NGOs are often path-dependent and reflect "*broader political economic dynamics*" (ibid 733).

If we consider the Zona Sur, DWCs generally exist in regions that have been excluded from mainline provision, they require participation and investment, the majority of the most deprived communities at the fringe of the Zona Sur rely solely on water vendors. There are several NGOs that support ASICASUDD-EPSAS because they are focused primarily on developing and supporting community-led provision. This is because it is in keeping with the overarching strategic objectives of the organisation, not because it targets the poorest communities that experience the most extreme water poverty.

Many of the NGOs and initiatives that were established after the Water War did so with funding that came from foreign NGOs and trade unions that had witnessed and identified with the anti-privatization rebellions, specifically the Water War, from afar. These organisations have funded the establishment of NGOs such as the Fundacion Abril, and the Yaku al Sur project (discussed below), that support DWCs in the region, as an alternative 'third way' in light of the failure of privatization. Meanwhile pre-existing Bolivian NGOs that are focused on water such as Agua Sustentable have received further funding from organisations such as

OxfamGB. This NGO has not only advised the government on reforms to the sector throughout the decade (as discussed in the previous chapter), but also continues to undertake capacity building work with DWCs (discussed below).

The Yaku al Sur project, coordinated by CEVI (Italian development organisation) and ACRA (Italian aid agency), provides support to ASICASUDD-EPSAS, to develop the practical and institutional capacity of the association. This is with the objective of improving access to water across the Zona Sur. The Italian Ministry of Foreign Affairs funded this 36-month project for almost 2 million Euros. Its direct beneficiaries were the DWCs of ASICASUDD-EPSAS, thought to represent around 60,000 people, and indirect beneficiaries - the further population of the Zona Sur. In practice the project has focused on formalizing and galvanizing committees that have recently joined the association and needed support for the development of infrastructure and to build more robust institutions, and to support the day-to-day work of the association. Yaku al Sur works with 4 communities every year that have been selected by, and are affiliated with, ASICASUDD-EPSAS, limiting the potential beneficiaries to those linked with the association.<sup>67</sup> These interventions do not necessarily reflect water poverty or needs, and in fact reflect the capacity of some of the more well-organised DWCs to cherry pick the projects and funds of NGOs operating in the region.

While the physical objectives of the Yaku al Sur project are to develop infrastructure, the indirect consequence has been the fortification of communities as vecinos begin to work together to develop a more efficient water committee.<sup>68</sup> The impetus for the development of a water committee doesn't always come from within the community, instead, the agencies behind projects like Yaku al Sur often have to convince communities of the benefits of community water management. Further,

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<sup>67</sup> Yaku al Sur project worker, Cochabamba, July 19th 2010

<sup>68</sup> Yaku al Sur project worker, Cochabamba, July 19th 2010

communities are not always adept at collective organising. A project coordinator with Yaku Al Sur explained:

Poor management and a lack of community cohesion has been one of the main challenges of this project, this has been put down to migrational patterns and the idea that people just want simple basic services that are provided.<sup>69</sup>

Projects such as these work to build systems of communitarian management, reflecting the overarching aims and objectives of the NGO. Yaku al Sur funds the development of communal systems of provision even when the community is fragmented, and sometimes disinterested in community-led solutions. This leads to the question, why pursue this sort of program, when the demand does not exist across the community. The Yaku al Sur project encourages the development of communal-systems in the Zona Sur, encouraging a rights and responsibilities approach to service provision that could be empowering. This has opened up new spaces for committees to engage with the state and with other NGOs, developing their political visibility and agency as a group. As outlined earlier, as a result of the ongoing capacity building work of CEVI in the Zona Sur, new DWCs continue to join. Nonetheless, the association only represents 42 of approximately 149 peri-urban committees. Meanwhile others in more rural parts of the Zona Sur have organised to form smaller regional associations to interact with the state. ASICASUDD-EPSAS emerged as a result of the post-Water War climate, and has undoubtedly benefitted from the diverse NGOs and institutions that are focussed on water in Cochabamba. This process has buoyed the DWCs and made ASICASUDD-EPSAS more formal over time. In the following section I consider the role that the association has played in reforms to the water sector since 2006 and the impact this has had on peri-urban DWCs.

### **ASICASUDD-EPSAS and the state**

As a result of collaborations with NGOs and state consultations around projects and reforms to the water sector ASICASUDD-EPSAS has

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<sup>69</sup> Yaku al Sur project worker, Cochabamba, July 19th 2010

become something of a gatekeeper to the Zona Sur. As the state embarks on initiatives to improve access to water in the peri-urban interface and to engage with informal providers, it does so through the association. ASICASUDD-EPSAS is now an intermediary for government institutions that have emerged since 2006 such as SENASBA (discussed in chapter 4). SENASBA seeks to capacity build community providers in the peri-urban interface. As outlined by one SENASBA official,

We had to go in through ASICASUDD-EPSAS, and with their participation, in reality ASICASUDD-EPSAS is the organisation that links up the committees and links us to the committees, and links the committees with all other institutions.<sup>70</sup>

The association has been fairly receptive to these initiatives. This is partly due to the fact that DWCs are not wholly autonomous providers and they do not resist the encroachment of the state. The association makes the Zona Sur more tangible for planners and institutions that, for the first time, are endeavouring to understand and engage with this dynamic peri-urban area.

There are certain interventions that neither the state nor NGOs can undertake independently, and so they commission the private services of institutions that can undertake technical assessments. CASA The Centre for Water and Environmental Sanitation is a department at the public university in Cochabamba. This research centre and laboratory undertakes investigations into environmental contamination, specializing in water in a variety of rural, urban and industrial settings across Bolivia. While this organisation belongs to the university, it provides consultancies and services to clients at a cost. As such the information it collects is not always publicly available. ASICASUDD-EPSAS has a limited understanding of the aquifer that the water committees rely on, specifically information relating to water levels and contamination. While communities in the Zona Sur complain about saline water and wells that are running dry, neither the state nor the

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<sup>70</sup> SENASBA official, La Paz, November 16th 2010



DWCs have a detailed understanding of the aquifer that they are exploiting. The association and NGOs such as Agua Sustentable have tried to develop a more technical understanding of the aquifers with the help of CASA. Agua Sustentable have commissioned the analysis of wells belonging to DWCs that are members of the association, which was published in a report (Gheilmi et al 2008) which is discussed in more detail in the following chapter. CASA is also a partner on the Yaku al Sur project, and on hand to undertake analysis or provide technical assistance where necessary. As such, members of the association benefit from this expertise.

CASA also supports the work of SENASBA. One employee explains.

What we found was that many of the DWCs provide water to users but without control over the quality of water provided...we have made an agreement with the university and CASA to test the water quality of 16 committees, as the first intervention, and the first assessment.”<sup>71</sup>

They also held several workshops. Agua Sur, the DWC that is the focus of the following ethnographic chapter, were one of the 16 committees, they explained to me that SENASBA undertook the same water quality tests that had been undertaken by Agua Sustanetable in the past, while the workshop on how to maintain and protect a well, presented advice that they had already received through ASICASUDD-EPSAS <sup>72</sup> . SENASBA, it seems are not undertaking new work with the committees, and appear to be doubling up on work that has already been done by other NGOs and social organisations. ASICASUDD-EPSAS has secured funding from NGOs and donors to undertake practical projects to improve the institutional sustainability of DWCs. They have distributed account-keeping software, and communication systems in conjunction with NGOs, so that committees can operate more efficiently on a day-to day-basis. Meanwhile, the association has been able to further use its strength in numbers to negotiate reduced electricity fees from ELFEC, the local electricity provider, for water committees, to

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<sup>71</sup> SENASBA official, La Paz, November 16th 2010

<sup>72</sup> DWC Water secratary, Cochabamba, June 14th 2011

reduce the overall operating costs of each system.

While ASICASUDD-EPSAS is working with NGOs and the state to improve DWC-led water provision in the peri-urban interface, it is evident that efforts to improve water provision across the Zona Sur are not coordinated. Work is sometimes doubled up on and some NGOs engage with some groups and not others. Furthermore, it appears that the poorest most marginalized groups, which often rely on vendors, are rarely the subjects of interventions. We can surmise that the interventions do not reflect necessity, and might serve further marginalise already marginalised groups.

### **Institutionalising co-gestion through the PASAAS project**

The following section considers impact of the EU funded PASAAS project. This is the project that comes closest to institutionalised co-gestion between ASICASUDD-EPSAS and the state. ASICASUDD-EPSAS relies on support from diverse providers, but continues to lobby for *co-gestion* as an alternative model for water provision in the Zona Sur. This alternative vision for the Zona Sur had some real potential between 2008 and 2010 when Rene Orellana was Water Minister. Under Orellana, it appeared that the MMAYA were exploring the idea of *co-gestion*, and devolving resources and some autonomy to the DWCs through ASICASUDD-EPSAS. During this period several initiatives were undertaken that clearly supported the DWCs, and the organisation ASICASUDD-EPSAS.

Renee Orellana was instrumental in the development of new relationships between the DWCs and the MMAYA, which bypassed the established municipalized system. The EU funded PASAAS project provided a major source of finance for DWCs belonging to ASICASUDD-EPSAS to develop or upgrade their infrastructure for provision. In practice funds were distributed between 41 DWCs for the construction of tanks, upgrading and extending of pipelines, and the installation of sewage systems. Most projects were completed by the

end of 2011 leading to 8280 connections, benefitting 41400 people in the Zona Sur (ASICASUDD-EPSAS 2012).



Figure 8: Drain cover for a PASAAS funded water system embellished with ASICASUR (ex-ASICASUDD-EPSAS) and MMAYA

However, while the infrastructure is now in place, several committees do not have sufficient or good enough quality water to fill the systems. At the time of writing, this program had not been followed up with further funding. After the departure of Rene Orellana, the association has not enjoyed the same level of interaction with the ministry or the ministers of water that have since been appointed. During conversations with employees at CEVI who works closely with ASICASUDD-EPSAS, I was told that under Orellana, organisations such as CEVI felt that the state had recognised the potential to develop the committees and ASICASUDD-EPSAS as viable water providers, but that this had not been the case under subsequent ministers.<sup>73</sup> When I interviewed an employee of the planning department of the MMAYA soon after the departure of Rene Orellana, he played down the PASAAS project.<sup>74</sup> The funding for the project was a one off and the result of Orellana's willingness to respond to pressure that was coming from the social movements to fund physical upgrading. There was funding left over from a EU grant to improve access to water and it was channelled to ASICASUDD-EPSAS. This has not however, subverted the idea of

<sup>73</sup> CEVI employee October 9th 2011

<sup>74</sup> Government employee at planning department of MMAYA, La Paz, November 17th 2010

municipal management. One employee at the planning department of the municipality explained that for the time being the municipality will only fund community organisations using LPP funding directly to decentralised neighbourhood associations, or OTBs. The municipality does not directly engage with organisations like ASICASUDD-EPSAS, because they are perceived as private providers, because they are non-state.<sup>75</sup> Therefore, while the state might support DWCs through one off projects like PASAAS, ultimately water provision is still governed using a municipal system and LPP funding as it was prior to 2006. This appeared to be indicative of a disconnect between the rhetoric of and approach of central government and that of the municipality.

Some commentators have highlighted this move to be part of a broader shift whereby community providers have been co-opted by the state, which could potentially weaken the political agency of social organisations and movements that have challenged the state in the past (III Feria Internacional del Agua 2011). Committee members do not necessarily reflect this sentiment, and have expressed significant gratitude for the funding that was brought in under Rene Orellana.

Padre Javier had started this earlier for us and the other committees nearby. But the pipes were weak and of poor quality. Many of the networks needed updating and then, thankfully for the money that came from the EU through the project PASAAS, with the help of Rene Orellana (ex-water minister), praise be to God!<sup>76</sup>

This is symptomatic of the disconnect between the discourse of activists and the needs of DWC members, which, as we shall see in the following chapter are often operating under challenging circumstances, and in need of external support.

I now move on to consider how the association has facilitated specific government policies and projects relating to licences and registries.

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<sup>75</sup> Civil Servant Water and Sanitation Projects Cochabamba Municipality November 22 2010

<sup>76</sup> Water secretary, Cochabamba, June 14th 2010

This is important because DWCs will ultimately be managed and developed through a system of regulation as outlined in chapter 4. To be regulated the DWC must have a licence and ASICASUDD- EPSAS has been facilitating this process.

### **Licenses and registries**

Beyond some funding initiatives and the development of new institutions to capacity build and regulate the sector, the state has continued to roll out a system of licenses and registries from DWCs and small-scale providers more generally. In theory this provides small-scale providers with the right to access water sources and/or provide water services. This scheme has been in place since the Water War ended. As outlined in chapter 4 ASICASUDD-EPSAS has two representatives working for CTRL (The Technical Committee for Licences and Registries in Cochabamba), the organisation that administers the licenses and registries, and it encourages DWCs to sign up. However, having spoken to the members of several DWCs that have licenced, the systems have yet to have any real effect on the day-to-day activities of DWCs in the Zona Sur.

Some researchers have expressed concern towards the idea of licensing and registering providers in light of the conflict that has arisen in rural settings amongst irrigator communities (discussed in chapter 2). State-sanctioned collective rights, specifically enclosed rights to water sources for each community, have been greeted with some caution. Granting collective and community rights to water means enclosing access to water for one community, which has knock on effects for others. Formalizing DWCs through licensing means defining who has access to those water sources, and in turn legitimizes exclusive appropriation, which is arguably a form of privatisation. Indeed and as outlined above, the municipality perceives the DWCs as private water providers. The constitution recognises the role of community providers, and prohibits exclusive private sector participation in the water sector, but often the line between community and private provision is blurred or

not recognised.

Bustamante (Bustamante 2007) has highlighted the impacts of licensing and registering the irrigation systems of rural communities in Tiqipaya. Reflecting on this she argues that granting collective rights does not necessarily lead to a revival of the commons, instead it undermines broader goals of sustainability and water equity and leads to increased incidences of conflict between communities (Bustamante et al 2012). In the Zona Sur, communities assert ownership over water sources that they have established through community wells. Communities have invested heavily in infrastructure to deliver water to households, and so they feel a sense of entitlement to the water they access through it. Neighbouring communities may share an aquifer, but the well tends to sit within the confines of the community. This, however, is not always the case. Some communities have wells in other communities and pipe the water over. However, over time, as the region has grown rapidly, residents reported that communities have tended towards enclosing access to the aquifer according to their community boundaries, and incidences of conflict between communities over water resources have increased. This calls into question the viability of community-led water provision in the Zona Sur.

One DWC water secretary explained that during the 1980s and 1990s ample water supplies meant that there was little conflict over water supplies, and communities could share water sources. There used to be an abundant water source in one of the barrios behind her barrio, and both communities had been in discussion around constructing a pipeline that would channel water down from communities on higher ground. However, relations between barrios have since changed as water resources have grown scarcer; *“If we went there now to ask for water, the people up there, they would lynch me”*.<sup>77</sup> An employee of the NGO Fundacion Abril also told me that there is anecdotal evidence to

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<sup>77</sup> Treasurer Agua Sur DWC, Villa 15 de Febrero, June 1st 2010

suggest that communities that have their water access points within the parameters of other barrios are now engaged in discussions around who has rights to that water source. While multiple DWCs share an aquifer, water rights are tied to land rights. During an ASICASUDD-EPSAS workshop on reforms to the water sector, one DWC leader expressed his unease with the system of licences and registries,

The water is for everyone, no one has the right to be its dueño (owner/landlord) so water sources or rights to access water sources should not be granted to anyone, or made anyone's property.<sup>78</sup>

Licences and registries had not taken full effect when this research was undertaken, but the challenges linked with this approach were already becoming evident. This will inevitably have implications for the viability of community-led provision in the Zona Sur.

### **Reaction to reforms**

State reforms to the water sector since 2006 and consultations around a new water law and the right to water challenge the status of the DWCs, as the state attempts to negotiate legitimacy in the Zona Sur, and formalise the informal. The reforms have been met with some unease from ASICASUDD-EPSAS, particularly the system of licences and registries that has been implemented.

Community-led systems are finding it difficult to undertake all that the state is asking of them, they do not have adequate water, nor do they have enough money".<sup>79</sup>

Further, the policies and projects to date have not really improved access to water for the committees belonging to the association, because they have failed to tackle the core challenge which is ensuring an affordable, clean and plentiful water source for the committees.

### **Conclusion**

While ASICASUDD-EPSAS is now aligned with the state to some

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<sup>78</sup> DWC Participant workshop on the right to water, *Cumbre por el agua y el Saneamiento Basico*, Cochabamba, 25 -26 June, 2010 *Basico*, Cochabamba, 26 June, 2010

<sup>79</sup> Abraham Grandiddy , Cochabamba July 22nd 2011

extent, we must keep in mind that the platform was based on principles of *co-gestion*, and set out to create partnerships with the state and other organisations to develop water services. The broad social and environmental challenges that undermine the capacity of the peri-urban DWCs on a daily basis, cannot be dealt with at the level of the community, nor even collectively by ASICASUDD-EPSAS. The association has entered into a relationship with the state, hoping that it would improve the capacity of the DWCs. In practice the state has not been willing to relinquish sufficient control nor resources for the partnership to come to fruition. The relationship is not, however, clientalist in the same way that the irrigators' federation FEDECOR has been portrayed. The organisation presents an alternative peri-urban system of water governance, but which has the potential to facilitate further state interventions and reforms linked to the right to water.

This chapter demonstrates that the human right to water is difficult to implement in the peri-urban interface because the state has historically been unable to guarantee provision, and state-citizen relations are weak. Several decades of urbanisation without infrastructure now makes it difficult for the state to roll out 'traditional' water infrastructure in the Zona Sur. Community water systems could be a solution. ASICASUDD-EPSAS developed in an attempt to encourage and galvanise community water systems in the Zona Sur. Peri-urban DWCs have thrived but only with the support of NGOs and external agencies. While the association developed to improve water provision, it has over time developed some political agency. It has become something of a gatekeeper to the peri-urban interface for the state as it rolls out reforms linked to the right to water. In practice that which is unfolding is not *co-gestion*, it is something of a compromise. The state has not devolved sufficient resources nor garnered sufficient political support and will to adequately support the DWCs. This illustrates some of the difficulties in implementing the right to water and tackling water provision in peri-urban areas of the Global South.



## Chapter 7: The Drinking Water Committee

The preceding chapters have described reforms around the right to water and the alternative ideals around community management, or the *co-gestion* of water services advocated by ASICASUD-EPSAS. This chapter attempts to assess the institutional sustainability of one DWC and their emerging partnerships with the state in the Zona Sur. This assessment specifically considers to what extent DWC-led provision can build local environmental integrity, ensure equitable access and also the impact of local power relations. This chapter draws on ethnographic data to explore the day-to-day realities of community-led water provision in Villa 15 de Febrero in the Zona Sur, and to consider these processes. I begin by setting out the historic development of one barrio, I then work through the challenges and opportunities linked to each of the four elements in turn. The purpose of this chapter is to consider the viability of DWC-led provision in the peri-urban interface, as part of an on-going program of reforms to realise the right to water through community water providers in the Zona Sur.

### Locating Villa 15<sup>80</sup> de Febrero in the Zona Sur

Cochabamba is characterized by socio-spatial inequality that unfolds from north to south. This can be observed by taking a bus ride from the north of the city to the poorest communities in the peri-urban Zona Sur where this ethnographic chapter is located. The bus sets off amongst the affluent mansions and walled gardens nestled in the foothills of the Andes, which are kept green and lush, even during the dry season, by household gardeners and automated sprinklers. The journey heads down into the city and takes in the new, gated high-rise apartment blocks that have sprung up just north of the centre alongside the new shopping malls and western style supermarkets. The bus then passes some of the colonial plazas that are typical of the architectural style in the centre of the city, before hitting the central market *La Cancha*. Cochabamba grew around

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<sup>80</sup> Pseudonym

the market located in the middle of the department and in this thriving agricultural region. Today, people come to the market not only for food, but also for their flat screen televisions, coca leaves, tailored suits and carnival costumes. It is so expansive and congested it can take up to an hour to drive the one kilometre or so distance from one end to the other on market days. The bus then picks up at the south side of the market and there are normally groups of women waiting with bundles of flowers, fruit and vegetables wrapped in *aguayos*<sup>81</sup> to take back to the Zona Sur and beyond. Once loaded up, the microbus sets off again to meet the *Avenida Petrolera* (Petroleum Road) and into the Zona Sur that stretches out towards the rural towns of *Tarata*, *Cliza* and *Punata*. Petroleum road is lined with warehouses, factories, gas works, building supply merchants and mechanics, with smaller roads branching off it to the city refuse dump and dairy farms. The scrubland is notably dry and dusty when compared to the fresh suburbs of the north, but adequate for the polluting industries, services and businesses that required cheaper land. The migrants that arrived to the city during the 1980s settled here because land and accommodation was cheap and thus Cochabamba began its rapid sprawl south. The region continues to displace the poorest to its peripheries, as new barrios emerge on the inhospitable hills that extend to the west and east of the Zona Sur. The time sequence aerial views of the Zona Sur reveal how the process is on-going (see appendix 1).

### **Villa 15 de Febrero**



Figure 9: Villa 15 de Febrero

<sup>81</sup> A traditional indigenous multi-coloured cloth often used as a bag

This ethnography was undertaken in Villa 15 de Febrero (see figure 9), a barrio located eight and a half kilometres to the south of the city centre on the edge of district 8. The Zona Sur is generally accepted to be districts 6, 14, 9, 7, 8 and 5 (see Map 4). District 8 has more urban and industrial features than District 9 and is made up of a mix of formal and informal settlements. Villa 15 de Febrero borders with several informal communities, and is not far from a petrol refinery. It is one of the 31 formally recognised barrios in the district, but figure 10 reveals the extent of the informal barrios in the region.

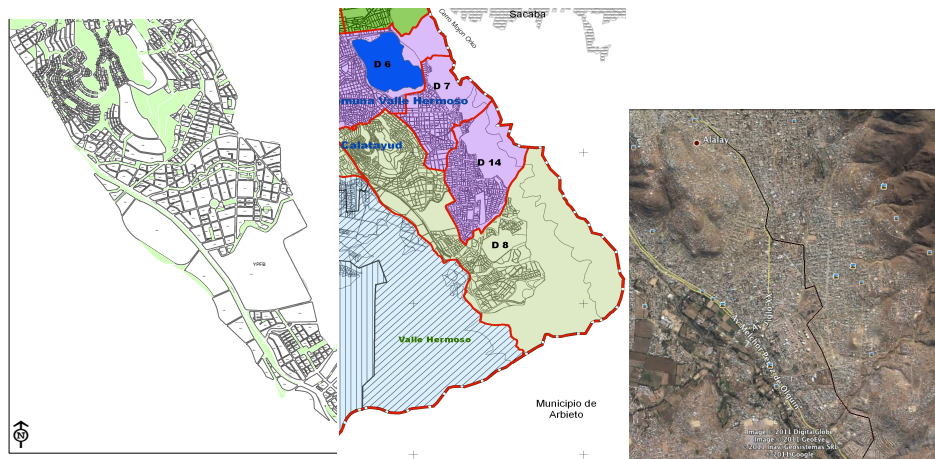


Figure 10: Informal barrios in the Zona Sur

The barrio, like the Zona Sur as a whole, is socio-economically and culturally diverse: figures 11 and 13 highlight the distinct houses, services in and around the barrio and types of land use. Three storey houses with high security gates surrounded by barbed wire stand a few blocks away from adobe houses and one-storey two roomed houses, or subdivided houses providing separate housing units. Subdivided houses are popular with young people who have come to Cochabamba temporarily for seasonal work, or to take advantage of urban facilities such as schools

and colleges. It is commonplace for homes to double up as shops or services like grocery shops, or more informally selling cheese or honey from their rural places of origin. Other families use a front room for a surgery, dentist, or hair salon. Meanwhile small places of worship of diverse denominations have been built in amongst the houses and commercial properties. Villa 15 de Febrero has its own school and a small community centre that is run by the OTB (formal decentralised residents' association), where community meetings are held: the barrio also absorbs businesses such as mechanics on the edge of the barrio (see figure 11) that benefit from the proximity to the highway coming in to Cochabamba. The great leveller is the lack of public water provision. The barrio, like most of the Zona Sur, does not have the same water infrastructure as the centre of the city and so its residents rely on water from private vendors or from the water committee.



Figure 11: Mechanics on the edge of the barrio

It is estimated that 50% of water provision in the Zona Sur comes from water committees (Ledo 2009); however the history, development, capacity and the social implications of these committee are poorly understood. Unlike the Water Fora of Caracas and the Cooperatives of

*La Sirena* in Cali, or even the water systems established by mining barrios in the north west of the city, the committees did not emerge as the direct result of corporatist policies or neoliberal reforms (as set out in chapter 5). The committees of the Zona Sur are the products of on-going struggles for water provision. Villa 15 de Febrero has had a drinking water committee, namely *Agua Sur*,<sup>82</sup> since 1999 with Doña Petra as its secretary. I first met Doña Petra at a workshop for water committees held by ASICASUDD-EPSAS one Sunday; I approached her during the meeting and she invited me to meet in her office, in the front room of her parents' house in the barrio. There is no written history of Villa 15 de Febrero, but over the course of an afternoon and a litre of coca-cola she gave me a short history of water in the barrio and the committee, based on her experiences. Her grandparents had a house here when the barrio was still scrubland during the 1970s, and Doña Petra had moved to the barrio with her parents during the late 1980s from a mining area.

Historically, Villa 15 de Febrero had been part of a larger community but split acrimoniously with it in 1980. Traditionally the whole community would come together for at least two days at the beginning of May for celebrations that draw on indigenous Andean fertility festivals on a Catholic saint's day. The *vecinos* (residents) came together in the May of 1980 as usual, but the vecinos from the west of the barrio, who had settled earlier, were more inclined to celebrate according to more sombre Catholic traditions, whereas the vecinos from the east, more recently settled from indigenous and mining communities, wanted to dance and drink chicha<sup>83</sup>. As a result they were turned away from the celebrations. An emergency meeting was called by the vecinos who were outraged that they would not be allowed to dance. One barrio elder explained: "*The virgin festival is a pagan festival; like all of the festivals here in Bolivia. We dance for Pachamama every May*", and so, on that day, Villa 15 de Febrero was established. The barrio is still defined by this day and

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<sup>82</sup> Pseudonym

<sup>83</sup> Chicha is a corn fermented drink that has been drunk for centuries and continues to be drunk, often in a ritualistic fashion, today.

indigenous traditions such the monthly K'oa are observed, as well as carnival where *vecinos* dance regional indigenous dances during the summer months. Similar practices are also observed in other barrios in the Zona Sur and in the centre of the city.

Doña Petra and I spent an afternoon together, but she, like everyone else in the barrio, was wary of me at first. Slowly, we got to know each other after I offered to accompany her on her rounds to collect bills and payments for the water committee the following week. Our relationship was reciprocal, she asked me to help her clean out the water tank early one Sunday morning, or to help out painting the school, and I was gradually introduced to the community and able to begin my data collection. This was how my peri-urban ethnography began.

### **The right to water and community water provision in Villa 15 de Febrero**

I began my fieldwork by trying to get a sense of people's ideas on the human right to water. When I first arrived in the barrio in 2010 most *vecinos* were not aware that the human right to water was enshrined in the constitution, and the implications that this could have for the water sector: those who were familiar with the human right to water explained that they would be unlikely to benefit from it considering the government's neglect of peri-urban communities in the past. This very much reflected the discourse of ASICASUDD-EPSAS, as discussed in the previous chapter. *Vecinos* were, however, certain that the community should participate in local water governance. It was commonplace to hear that the community was best placed to manage and provide water in the barrio, but that they required the help of the state to do so; in essence the idea that 'co-gestion' and the participation of the community in water resources is the only way that the water needs of the community will be met. One barrio elder explained:

I arrived at the barrio 30 years ago, when there was nothing here, we cleared cactus and built roads together. So many local



politicians have come to this barrio and promised to pave our roads, but we have had to do everything, pave roads, bring electricity, and sort out the water supply. When I first arrived there were just 2 aguateros for the whole zone, now there are tens. The communities of the Zona Sur have had to manage their resources and so have become good at it; we should be supported in doing this.<sup>84</sup>

This was often exemplified with explanations about how they had frequently been let down by the state and so it is only through local management that communities can make sure that their interests are represented. This was expressed by several vecinos:

The state should provide the water, but it can't: it has failed us and so we have had to provide it.<sup>85</sup>

"I think a committee is the best to manage a water supply, they are the most capable, they are the ones who have been managing water in this region for the longest."<sup>86</sup>

This sentiment echoes that of ASICASUDD-EPSAS, but does not mean that they reject state interventions, or that the community had strong inclinations towards autonomy. Agua Sur was a member of ASICASUDD-EPSAS and had been the focus of several state-led capacity building interventions. While I was in the barrio, the community was using PASAAS funding from the Ministry for Water and the Environment via ASICASUDD-EPSAS (details/background to this project are in the previous chapter) from 2008 to construct an extended replacement for the existing pipeline. Thus, state funding for the project was designed and managed by the committee. This provided me with the opportunity to explore how the relationship between the MMAYA and the committees was unfolding in practice. Given that the water committee was out of service due to the construction of the pipeline, it also gave me the chance, to understand how water provided by a committee compares to the service provided by the water vendors, or the aguateros. While the new pipeline was under construction, the *vecinos* of *Villa 15 de Febrero* relied

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<sup>84</sup> Barrio elder, Villa 15 de Febrero, May 2nd 2010

<sup>85</sup> Barrio elder, Villa 15 de Febrero, May 5th 2010

<sup>86</sup> Barrio elder, Villa 15 de Febrero, May 5th 2010

exclusively on water from *aguateros*. In the following section I set out the difference between water bought in from the *aguateros* and the service provided by Agua Sur.

### The service

Before exploring the viability of the committees, I first set out the sort of service available from the other principal provider in the Zona Sur, the *aguateros*. *Aguateros* (see figure 12) delivered to the barrio 7 days per week, they are readily available, but the water quality of the water provided is not reliable, as it often smells or looks bad. There are multiple *aguateros* operating in the villa and so for vecinos to give their custom, an *aguatero* must develop a reputation for selling ‘good’ water: ‘good’ water is not necessarily clean, but it must look, taste and smell clean.



Figure 12: An *aguatero* in the barrio

All vecinos who took part in the household survey described how sometimes they had bought water that looked, smelt, or tasted so bad that it could only be used for cleaning the house. When water is bad households have to buy water again, there are no returns or refunds from *aguateros*, and so residents pay double for dirty water. Furthermore, water sold by the *aguateros* is the most expensive water in Cochabamba. In July 2011 water prices were as follows:



SEMAPA: Public Water Provider to the city centre	36p per cubic meter
DWC Agua Sur	50p per cubic meter
DWC APAAS – Villa Pagador	40p per cubic meter
DWC Valle Hermoso	20p per cubic meter
DWC Villa Venezuela	24p per cubic meter
Aguateros	50p – £1.40 per turil/barrel (1 turil=200 ltr) Price increases depending on the elevation of the barrio

Table 1: Price of Water

Water from the committees is always cheaper than water from the aguateros, which is one reason why community-run water committees are so common across the Zona Sur. However the price does vary from committee to committee, and as I will explain later in this chapter, water is not consistently available and can be saline. Joining fees can also be prohibitive. Not every community has a water committee, and some barrios or residents chose to buy water from vendors if their DWC is affected by water shortages, contamination, or perhaps if they are unwilling to participate in the DWC. All of these factors are discussed in more detail later in the chapter.

There is a significant disparity in the amount of water used and how it is accessed by vecinos in the barrio. The data is gathered in relation to water purchased from the aguateros, as the water committee was out of action while I was collecting data. Water use in the barrio ranged from 11 litres to 95 litres per person per day, with an average of 52 litres. This is considerably less than the estimated average of 150 litres per day used by SEMAPA customers. 35 of the 90 respondents were consuming less than the World Health Organisation threshold of 20 litres of water per person per day (World Health Organisation 2012). The difference in water use reflects the socio-economic diversity in the barrio. The development and growth of the barrio has been uneven, and as a result certain parts of

the barrio are more developed and attract wealthier newcomers. Wealth from remittances, and coca crops in the Chapare has funded the construction of salubrious houses of up to 3 storeys throughout the north and central parts of the barrio. Meanwhile in the east and south-eastern fringes of the barrio there are more traditional adobe houses that are common in rural areas, and simple one storey constructions of breezeblocks.



Figure 13: Diverse housing types

This socio-economic inequality is also reflected in how people store and access water in their homes. Wealthier *vecinos* have installed large

storage tanks and pump water to a tank on a roof, which is then distributed around the house to supply appliances such as washing machines, showers and flushing toilets. Poorer households rely on *turiles* (barrels with a capacity of 200 litres) that are generally left outside their house, often uncovered and therefore more prone to contamination. Water is taken by bucket and used sparingly as and when it is needed. While water use varied between households, all 90 households that responded to the survey re-used water to some extent: dishwater is reused to clean floors, water from washing clothes to flush the toilet, while cooking water was often used to water plants. This could only be explained as a result of a common culture of water preservation.

SEMAPA customers in the centre and north of the city experience water shortages during the dry months, and undertake similar water saving practices.

As outlined in previous chapters, Cochabamba experiences a short, intense rainy season, with the heaviest rains falling between December and February. Appendix 1 highlights the difference between the driest months and the rainy season. Even some of the wealthier households regularly harvest rainwater during the rainy period, with 57 out of 90 survey respondents doing so, for economic reasons and for convenience. Instead of relying solely on water from the aguateros, families could collect water directly into containers placed in their yards, or more strategically, by using a guttering system to collect water off their roofs: rainwater is used for clothes washing and cleaning the house but never for human consumption.

Aguateros are unregulated, an unknown quantity, with water of variable quality and so it pays to get to know your aguatero. Vendors draw water from various sites and sources around the city; in the north of the city, in the wealthy suburbs of *Cala Cala* there are numerous subterranean sources that are exploited through private wells, aguateros can be found queuing here on a daily basis to fill up before distributing to the Zona Sur.

There are also other wells further afield, in the more rural regions to the north and west of the city. Then there are the more dubious stories of aguateros who fill their tanks with the dirty water from swimming pools in the northern zone; a story that was often re-told to me in households not only in *15 de Febrero* but throughout the *Zona Sur*. Whether there is any truth in the story it is impossible to know, but it is not inconceivable to the vecinos, considering the quality of water many households have received in the past. Vecinos not only report dirty-smelling water but also chemical smells, furthermore, while living in Cochabamba I often saw aguateros filling up from dirty rivers and streams. It was commonplace to hear vecinos complain about receiving water that was cloudy, green, brown, smelt bad or tasted strange, or had insects or small animals in it. Vecinos were more likely to receive bad water during the dry winter months, from June to September, when there is less water available to the aguateros. Also vendors increase the price of water during these months, with some aguateros adding 10 pence per turil during the dryer months. Families, particularly mothers who were generally responsible for buying water, have become discriminating because it's too costly not to be; they could point out the aguateros on the streets that were generally trustworthy. Single men, however, were less particular about their water sources. While all *vecinos* consulted had received bad deliveries of water at some point, most were now accustomed to the type of service and thus are used to the water they buy from the aguateros. Households use water only if it has been boiled or cleaned using the Sodis UV filtration method.

### **The drinking water committee**

The committee is based on core principles of mutual aid, and thus, unlike the aguateros, it was not established as a service that is bought in. Instead, a community secures the local right to a water source and/or to provide a water service to its members known as *socios*.

Agua Sur is a non-profit making civil association, of communitarian character that represents the interests and responsibilities of the community in relation to basic services

(water).<sup>87</sup>

In the absence of state infrastructure and water provision, the community has become the legitimate provider in the eyes of peri-urban residents, and increasingly, as highlighted in previous chapters, a potential solution to water provision in the peri-urban interface.

In rural settings, indigenous councils or community-based organisations tend to control aspects of everyday life. A neighbourhood council might make decisions on water provision, but also education and other basic services as well as cultural and social decisions. These organisations exist in the absence of the state, but also in parallel with the state, a feature of the juridical pluralism that is said to characterise Bolivia. In peri-urban areas this juridical pluralism is more fragmented. In the Zona Sur, in communities such as Villa 15 de Febrero, there is a Residents' Association, but it does not manage the water supply. The water committee manages only one aspect of everyday life. Meanwhile the school, for example, is provided by the state. Control over basic services tends to be managed collectively, but sometimes it is through a conduit established by the state, such as the formal resident's association, other times it is through grassroots organisations such as the DWC that tends to undermine the state (this is discussed in more detail later in the chapter).

The DWC is based on a collective structure of management based on rights and obligations. To be a member of the committee, members must participate in the management and maintenance of the system. The committee board operates by consensus of committee members. It consists of a president and treasurer (both elected voluntary positions), while a water secretary, in this case Doña Petra, is paid to undertake the day-to-day running of the committee. The committee also has an engineer who is casually employed when required. When it was operating,

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<sup>87</sup> Agua Sur Norms and Regulations 2001.

Agua Sur provided a cheaper service than the aguateros. The committee provided water at 50 pence per cubic meter (1000 litres), while aguateros deliver at 50 pence per 200 litres. To become a member of the water committee you must have property within the territorial remit of the water committee, and pay a joining fee of around \$250 per household, payable in instalments if necessary. There are also negotiable favourable rates for community organizations and services, for example schools or churches. Here the meaning of '*usos y costumbres*' at the level of the community becomes more tangible. Furthermore, if certain members are unable to pay their bills the water secretary has the ability to allow payment by instalments. It is only during recent years that the committee has started to consider the idea of cutting off the supply to members who have repeatedly failed to pay their bills.

To be a *socio* of Agua Sur, members have a series of obligations to the committee. They are expected to participate themselves, or send a representative of the household, to the meetings when called. Women and men participate equally in these meetings, which generally happen on a monthly basis, but can be held more or less frequently as required; the secretary pins notes to the doors of committee members when emergency meetings are required. Vecinos were also required to participate in workdays such as cleaning out the water tank and to participate in marches organised by ASICASUDD-EPSAS or other events. While I was in the field a march was held to commemorate a decade following the Water War and to highlight the on-going water shortages experienced in the Zona Sur. Although women tend to buy, and be responsible for, water use in the house, they are rarely elected as president or leader of a water committee. Consequently, during the annual national water meeting of leaders from water committees, cooperatives and social movements the only women present are a few treasurers and secretaries, like Doña Petra. Failure to attend workdays, meetings or ASICASUDD-EPSAS events leads to a fine of 3 bolivianos, which was around 30 pence at the time of writing.

Every water committee is different and has developed according to the community's uses and customs. The management structure of Agua Sur is not a carbon copy of the other water committees that operate in the *Zona Sur*, but it bears similarities. In almost every committee attendance at meetings and workdays is obligatory, and each committee collectively decides upon its rules and regulations and the structure of management, creating the 'norms' for water management in the barrio according to their '*usos y costumbres*'. There are then some minor differences in how the committee functions. Some committees might not have a paid water secretary, but insist that an elected member of the barrio takes on the work, while others may have short terms for committee presidents, to ensure that as many vecinos as possible have the opportunity to participate in the directive at some point. This section has outlined some of the backdrop and norms that frame the DWCs in principle. In following section we begin to consider some of the elements that affect the sustainability of DWC water provision in peri-urban areas.

### **The sustainability of DWCs in the peri-urban interface**

As outlined in the preceding chapters, NGOs, social organisations and newly formed public institutions have attempted to support and develop DWCs as water providers in the Zona Sur, generally addressing certain elements that impact on the sustainability of water provision. For the remainder of the chapter I explore some of the challenges and opportunities for enhancing sustainable water provision in the peri-urban interface. I develop a qualitative understanding of the opportunities and challenges to the building of sustainable water provision in peri-urban areas, and the implications that this has for local environmental integrity. I also explore the often-ignored challenges and opportunities to build equitable access and social justice. Throughout this section I consider the shaping impact of the dynamic social relations that characterise the peri-urban interface.

### **DWC-led provision and local environmental integrity**

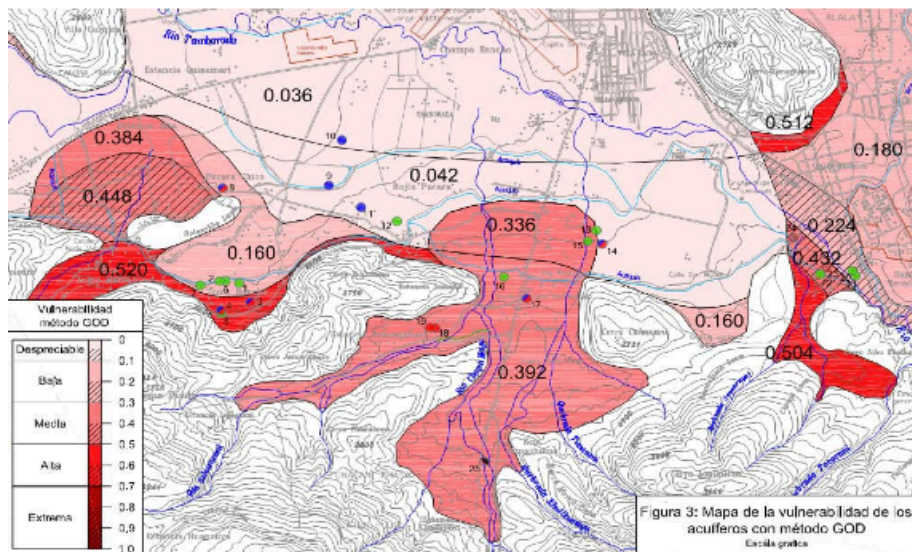
The diverse water providers of Cochabamba rely on surface water and

alluvial aquifers for water; in 1996 it was estimated that 60% of the region's water for productive and consumer uses came from surface stores and 40% from aquifers (Anton 1996). The drinking water committees of the peri-urban south were established on wells that extract water from the aquifer, but the committee members have a very limited understanding of the water that they extract and distribute. The presence of numerous unregulated private and community-owned wells, alongside industry, agriculture and agri-business many of which use the aquifer and dispose wastewater into surface water areas, means that vecinos and DWCs suspect that water levels have become depleted and contaminated. This is evidenced by the volume and quality of the water supplied by the DWC. However, there has been no broad assessment of the impacts of the diverse actors that co-exist in the Zona Sur on the aquifer, nor of the water extracted in the Zona Sur and the wider aquifer. Regional analysis of some wells have been made by the Gheilmi et al (2008) for a report commissioned by ASICASUDD-EPSAS into the quality of the water of DWCs belonging to the federation.

The topography of the Zona Sur means that in some areas parts of the aquifer are more susceptible to contamination from wastewater from industry, and also from domestic wastewater from the local community. (Romero, Vandecasteele et al. 2000). Industries in the region that produce biological wastewater include two prominent slaughterhouses. This wastewater is dumped in the River Rocha and indirectly into the Tamborada river. Both of these rivers are within the aquifer that feeds the DWCs of district 8 and 9. There is also a tannery and two plastic factories that produce chemical wastewater in the region of the aquifer, but it is not clear how or where their wastewater is disposed (Gheilmi et al 2008: 28). At the level of the community, domestic wastewater and seepage from poorly lined septic tanks are sources of contamination. The following map highlights the regions that are most at risk of contamination according to the GOD scale. The GOD scale has been used widely across Latin America, it is based on the confinement of the aquifer, the type of overlying rock and the depth of the groundwater (Foster et al 2002: 19)



Agua Sur's well is located on a point of the aquifer that is at high risk of contamination.



ASICASUDD-EPSAS commissioned the referenced investigation so that the barrios of the Zona Sur can understand the nature and vulnerability of the water sources that they exploit, and thus plan to protect the water supplies that are most vulnerable or avoid sources that are contaminated. Agua Sur thus knows that the water it exploits is contaminated (the sources of which are discussed in more detail below), but it has limited capacity to tackle the sources of contamination and treat the water. The state has not undertaken extensive sampling of the aquifer and has yet to acknowledge the levels of contamination in the water that the DWCs rely on. The aquifer that the DWCs exploit extends far beyond the Zona Sur, and thus the sources of contamination and dwindling water levels is a consequence of extraction and contamination across the aquifer. The committees are unable to tackle these problems that exist on a larger scale than the community, like over extraction and contamination of the aquifer. Furthermore, the on-going urbanisation of the region, beyond the peri urban zone continues to impact on it. Planned and unplanned construction of houses, businesses, roads and new barrios on the alluvial fan, which is the natural recharge area of the aquifer, affects capacity to

recharge. It is the principal water source for peri-urban DWCs.<sup>88</sup> This further demonstrates how the peri urban zone cannot be divorced from the urban centre, and how the continued development of the centre has a lasting affect on the broader aquifer.

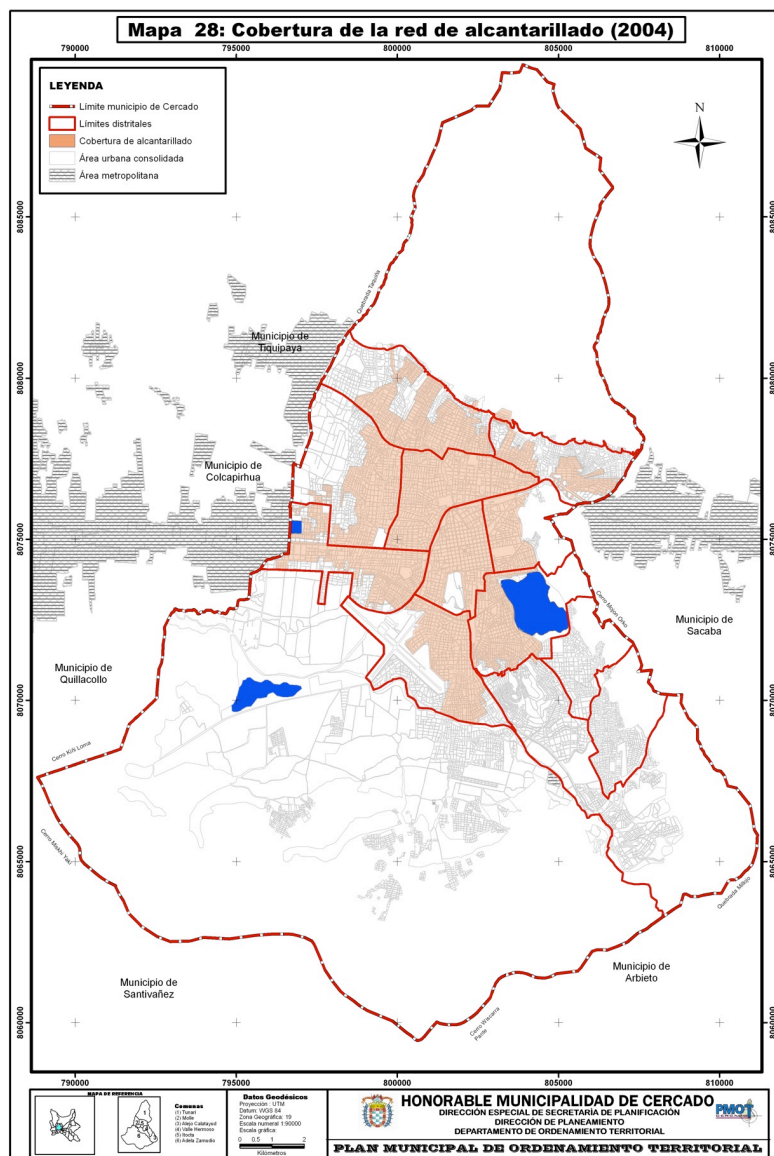
While vendors and the DWC have been able to develop infrastructure and a service to meet the water needs of communities in the Zona Sur, the same cannot be said for sanitation. Ultimately the sustainability of any water provision is dependent on wastewater management. Households in the barrio tend to use septic tanks that are often poorly lined and not regularly emptied, while wastewater is thrown out into the lanes and roadsides. Households have no other choice than to get rid of their wastewater this way, but the implications for the local water supply are severe. In a recent study of wells in the region, it was found that faecal matter was the most commonly found contaminant in committee wells (Gheilmi et al, 2008). Agua Sur is aware of this, along with many of the water committees of ASICASUDD-EPSAS. In conjunction with NGOs such as Agua Sustentable, Yaku al Sur and the Fundacion Abril, the committee leaders have attended workshops on how best to protect a well against such sources of contamination, but the DWCs that participate do not represent all the communities in the Zona Sur, and access to sanitation is a problem across the whole region. NGOs are trying to support DWCs so that they can tackle some of the impacts of contamination or over-exploitation. However, they do not engage with all DWCs. Ideally a state-led initiative would engage with all DWCs.

The idea of the basic right to sanitation is gaining ground amongst the committees, meaning that the communities need to start organising and securing funds for sanitation systems as there is little hope that the state will extend the city system to the Zona Sur. Doña Petra, the committee secretary believes that access to sanitation should be the next issue to mobilise the water committees of the Zona Sur; currently sanitation,

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<sup>88</sup> NGO-affiliated Engineer, Cochabamba, May16th 2010

reaches fewer people than potable water in this area of the city, see Map 8. Several water committees and OTBs in the Zona Sur, such as Villa Pagador, have constructed their own sanitation systems, but water continues to take priority, as many water committees continue to struggle to maintain and develop their system of water provision. Reforms to build the capacity of DWCs have failed to address local sanitation provision and wastewater disposal, while the limited financial and institutional capacity of the water committees means that communities continue to contaminate their own, and surrounding water supplies. Again, the broader processes that characterise the peri urban zone, specifically rapid urbanisation without infrastructure development, undermine community-focussed provision. These processes need to be understood if community-led provision is to become a viable method of provision in the Zona Sur.



Map 8: Sanitation coverage Cochabamba

The absence of efficient basic services across the region affects the local environment and the broader aquifer. The state operates an unreliable refuse collection service, which means that vecinos are often left with weeks' worth of rubbish in their back yard with no idea when the next collection will be. When this happens, particularly during warmer summer months, vecinos will dump rubbish away from the barrio, or if they have access to a vehicle, they will take their rubbish and dump it by the River Rocha, therefore polluting a water source that feeds the aquifer that DWCs rely on. Water committees and industry both contaminate surface and subterranean water levels and water quality in the region albeit on

very different scales. Vecinos in the region do so out of necessity, because they lack the services and infrastructure to be able to do otherwise. Industrial contamination persists because the state does not regulate efficiently. This demonstrates that while the community can manage water resources, their efficiency and capacity to deliver clean water can only be actualised if the state ensures the provision of other basic services, tackles sources of contamination and regulates the behaviour of other polluting actors in the region.

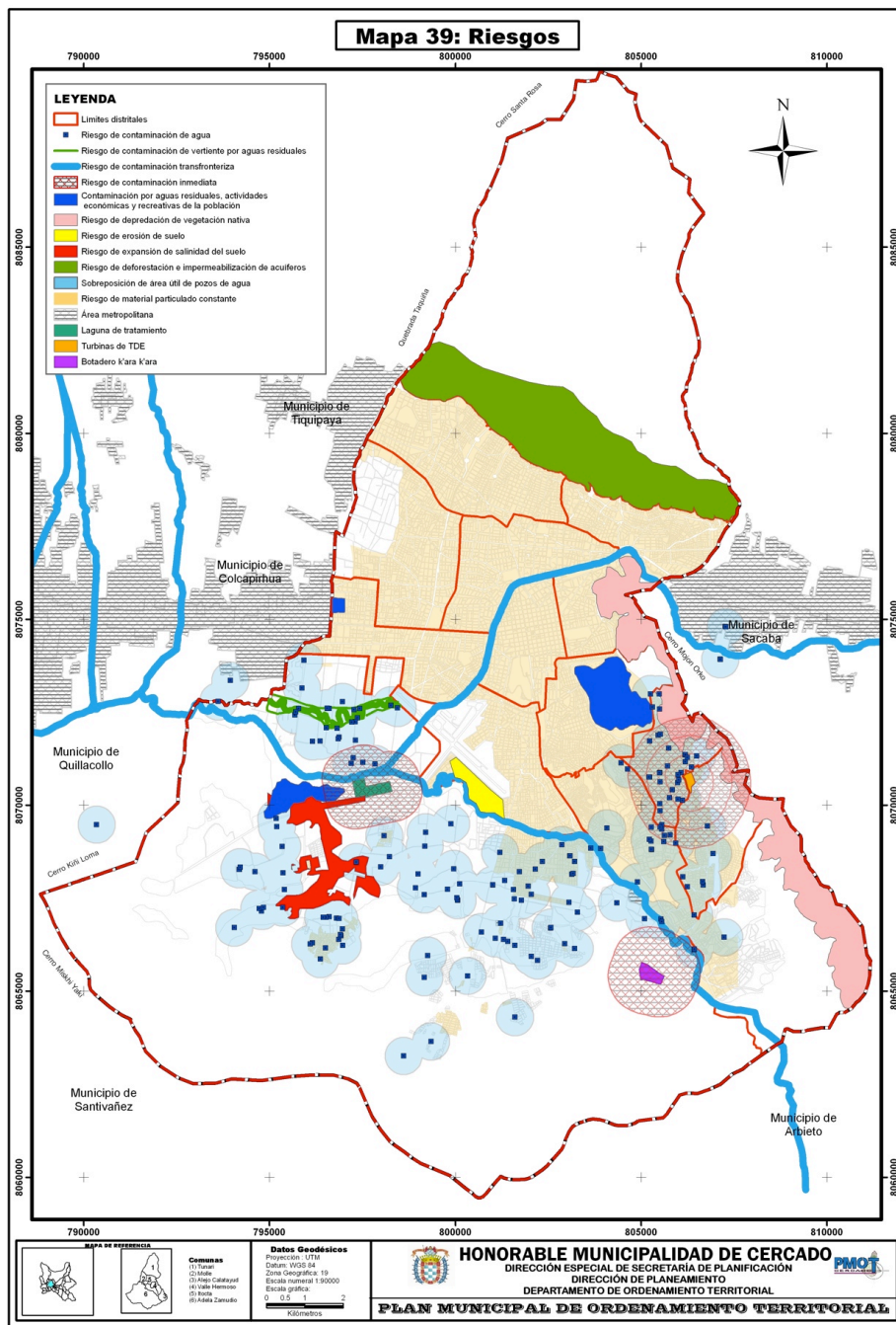
Water committees were established to meet the needs of the communities that they serve; wells were not excavated with any consideration for the water needs of neighbouring barrios. Decisions around where to drill for a well were often hunches based on local knowledge and understandings of the aquifer. Agua Sur were fortunate to find water with their first well, but they excavated a further three none of which had sufficient volume to be able to supply the barrio. Map 9 highlights the wells that the municipality knows about in the Zona Sur in 2001, while many more wells have been perforated since then. There are hundreds of wells throughout the Zona Sur, many of which are too close to each other, or are over-extracting water from the aquifer<sup>89</sup>. The water committees of ASICASUDD-EPSAS are aware of this, and so there have been recommendations made by engineers working for local NGOs to establish minimum distances between excavated wells, and maximum volumes of exploitation of the aquifer in the region. Agua Sur water has been saline for several years as a result of over-exploitation. Vecinos explained that water was running like milk from the taps when the DWC was operating. The assessment made by Agua Sostenable corroborated this, and the water of the committee was deemed unfit for human consumption, one element of this was that it was overly saline. While the water in the Zona Sur is often saline, vecinos describe how the water has become more saline over time. Over-extraction of the aquifer locally leads to the salinization of wells. A coordinated response could help prevent the

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<sup>89</sup> NGO-affiliated Engineer, Cochabamba, May 16th 2010

decline of the phreatic level/the water table, a process which could lead to the infiltration of water contaminated from the rivers community and Rocha Tamborada (Ghelimi et al, 2008), which are heavily contaminated as outlined in the previous pages. ASICASUDD-EPSAS runs regular workshops and training on the most sustainable ways to exploit the aquifer, giving advice on the most efficient pumps to avoid over-exploitation of the aquifer, but the coordination of all water committees in the region is necessary for this approach to work effectively. These workshops embody an attempt to tackle some of environmental factors that undermine DWCs in light of the state's failure.

The constitution recognizes citizen's rights to a clean environment and the protection of water resources against contamination, but this has not yet been developed into policy or laws to protect peri-urban communities. In the Zona Sur, the aquifer continues to be contaminated by industries, abattoirs and agro-industries located here, as well as contaminating services such as the refuse dump that are located here. Committees in the Zona Sur have sought to lobby to defend the aquifer against contamination; K'ara K'ara, a municipal waste dump, is the most prolific contaminant in the region, having been declared an environmental disaster zone by the municipality, the map below highlights the proximity of the dump to the barrio and its well



Map

Map 9: Known wells in the Zona Sur 2001

Agua Sur has been identified as being particularly vulnerable to contamination according to the GOD index. It is thus physically vulnerable to the impacts of accumulating sources of contamination. The barrio is also on the periphery of the contamination zone of K'ara K'ara. Numerous communities have emerged around K'ara K'ara since the early 2000s, as

highlighted in appendix 1. The contamination from the dump was not a surprise to vecinos who live with the stench and flies of K'ara K'ara on a daily basis, which intensifies during the warmer months. They have always suspected that the dump must be affecting their water supply. The 2008 report by Ghielmi et al on behalf of committees belonging to ASICASUDD-EPSAS stated that the Agua Sur was one of the committees whose water supply was likely to be affected by contamination from the dump. Communities and committees surrounding the dump have been calling for its closure and for it to be sealed since the late 1990s. The campaign manifested itself in a high-profile series of blockades in late 2009 that filled the streets of Cochabamba with rotting waste for weeks during the hottest driest months of the year. This led to a declaration by the supreme court of criminal justice in favour of the local residents, and an order that the dump be closed and sealed. In 2011, the dump continued to receive waste from the city: the municipality simply hadn't enforced the closure because it hasn't established an efficient way of sealing the site or an alternative space for a new refuse dump. The continued contamination of local land and water resources by K'ara K'ara, which is one source amongst many, highlights the inconsistency in government policy towards the Zona Sur and the water committees. Policies and projects that support the work of water committees are compromised by the continued preference by the state for the needs of those living in the urban centre and industries located in the Zona Sur. This in turn undermines the capacity of water committees to provide sufficient and safe water. The state has yet to tackle the diverse sources of industrial contamination that affect the aquifer.

A more coordinated effort to understand the nature of the aquifer, the principal sources of contamination and how they impact on the aquifer and the location of wells throughout the Zona Sur has never been attempted. The Centro CASA (outlined in the previous chapter) at UMSS have worked with The Fundacion Abril, Agua Sostenible and ASICASUDE EPSAS' committees to sample and analyse committee water sources. However, these are small-scale studies that have been



commissioned on behalf of organisations and committees, as such their findings are not publicly available. A principal researcher at the Centro CASA explained that the state had never undertaken a broad diagnostic investigation of the aquifer, as it would mean that they would be obliged to recognize some of the underlying sources of contamination affecting water supplies in the area<sup>90</sup>. In doing this they would have to tackle the failure to provide a sanitation system, the unregulated contamination by the private sector and also the state's failure to adequately plan for city refuse disposal. While the information that reveals the sources of contamination is not in the public domain the state is allowed 'off the hook'.

In summary, DWCs extract water in an uncoordinated and unregulated fashion that is not dissimilar to that of the other industrial and agricultural actors that share the aquifer, this has led to the depletion of water resources. The aquifer is contaminated by industrial wastewater as well as domestic wastewater as a result of the absence of basic service provision. Additionally, the state has been unwilling to close or address the contamination from the municipal waste dump. The basic needs of peri-urban communities here have been largely ignored, and the state has failed to plan for, and consider, the temporal and spatial impacts of environmental pollution. Despite all of this, the state continues to support and develop DWCs as alternative providers in the Zona Sur, even though this uncoordinated use of the aquifer is evidently unsustainable. Gheilmi et al's (2008) report concluded that the water from Agua Sur's well was unfit for human consumption, using the Bolivian established Norms for Potable Water (NB512/04).<sup>91</sup> The well does not comply with the national standard for sulphates, ammonium nitrate, magnesium, and chlorides. The waters are saline and nickel has been found in trace amounts, the well also contained contamination from organic (thought to be faecal)

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<sup>90</sup> CASA employee, Cochabamba May 20th 2010

<sup>91</sup> This is the national standard for drinking water in Bolivia, established by the Ministry for the Environment and Water  
[http://www.mmaya.gob.bo/vapsb/biblioteca/DOCS/NORMAS/NB%20512,495-496%20CalidadAgua%20-%20oct2004/NB512%20AP\\_Requisitos.pdf](http://www.mmaya.gob.bo/vapsb/biblioteca/DOCS/NORMAS/NB%20512,495-496%20CalidadAgua%20-%20oct2004/NB512%20AP_Requisitos.pdf)

matter and wastewater, while the general hydro chemical characteristics suggest the presence of an important hydro chemical alteration. Of the 25 wells sampled, Agua Sur' water supply was one of the five that rated worst, and the report recommended strongly against consuming the water.

I interviewed one engineer who worked for Agua Sustentable and who regularly gave workshops and talks to water committee leaders and asked him what he thought was the best way to exploit the aquifer sustainably. He responded that he thought the aquifer could meet the water needs of the committees, if it was managed efficiently and water use was regulated.<sup>92</sup> This is not dissimilar to the approach discussed in the previous chapter that is advocated by SENASBA. This would include ensuring that wells were built with sufficient distance between each other, that they are lined efficiently, and that sources of contamination were curtailed. Reforms to support the work of committees highlighted in this thesis, have focused on developing the DWCs but have failed to address some of the local and more regional sources of contamination and over-exploitation. It is estimated that there are at least 120 water committees and associations operating in the Zona Sur, using the aquifer or transported water to supply their communities. Some of these distribute water for human consumption and for livestock, but each one is working towards the interests of their own communities. Committees, however, do not exist in isolation and co-exist with the urban and rural services and actors that are located here, with industry, agro-industry, and businesses such as slaughterhouses. There is insufficient understanding of the water needs and practices of each of these diverse actors, this combined with a failure to develop policies and regulation that regulate the needs of each of these actors, leads to the depletion and contamination of the aquifer.

There has evidently been a complete lack of regional planning or integrated development by the state. This scenario also suggests that the committees' future is dependent on the state playing a more active role to

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<sup>92</sup> NGO-affiliated Engineer May 16th 2010

protect and possibly provide water sources for the committees. The DWCs cannot tackle regional problems that affect the whole aquifer independently. This is why *co-gestion* or co-management is the core discourse promoted by community water providers in the Zona Sur, and not demands for autonomy. The discourse of co-gestion does not consist of an equal partnership between committees and the state for water management in the Zona Sur, as it is heavily dependent on the role and will of the state. Water committees do not have the institutional capacity or financial resources to be able to address the broader sources of contamination that impact on the aquifer. Government reforms to date have focussed on low-level capacity building and infrastructural projects, and have yet to tackle sources of contamination to the aquifer, or to secure access to water sources other than the aquifer. Failing to do so undermines plans to improve access to water and recognise the right to water in the peri-urban interface. Furthermore it continues a pattern of unsustainable water provision, which negatively affects local environmental integrity. It appears that this is largely the result of a lack of resources, information and data on the Zona Sur, and also political will.

### **Equitable water access**

In the following section I consider the challenges and opportunities for DWCs in providing equitable access to water in the peri-urban interface, examining the historic development of the barrio to suggest some reasons why access to basic services including water is often unequal. The power relations that define community-based organisations have been well documented. Peri-urban DWCs are no different. The following section considers the socio-political context that has led to the development of the DWC and the unequal provision that characterises it. If DWCs are to play a role in water provision as part of reforms under the right to water, factors that influence the equity of water provision need to be understood. I go on to argue that the emergence of the peri-urban interface and the accompanying peripheralisation of poverty is mirrored at the level of the barrio. There had been a tendency to romanticise the capacity of community-based organisations to meet the needs of the

community. The 'small is beautiful' myth that is often applied to community based natural resource management in rural settings, has more recently been dispelled (Blackie 2006). The phenomenon of collective organising around natural resource management and basic service provision in the peri-urban interface has not been given due attention, even though DWCs are coming to play an increasing role in the production and co-production of water services across Latin America (CLOCSAS, 2012). In the Zona Sur DWCs reflect the demands of rural irrigation systems but also that of urban citizens who lobby to participate in the management of public water providers. Committees have emerged to meet the water needs of the community according to local uses and customs and vigorously defend the rights of the community to provide water locally, in a similar way to the irrigator groups, as discussed in previous chapters. DWCs also lobby for the right to participate in and influence the development of water provision in the southern zone in the same way that spaces have been opened up for the participation of urban citizens in public utilities in Cochabamba. The peri-urban interface has always been a space of urban and rural linkages, and the DWCs that have emerged reflect these processes.

It is tempting to conclude that rural and mining practices and traditions have been transplanted and mixed with urban practices to forge new peri-urban communities and practices, the process is, however, more complicated than that. There has been some research in the Zona Sur about the impact of migratory patterns and their impact on the extent to which vecinos cooperate and work collectively for the needs and basic services within the community. In the Zona Sur there are several barrios de los mineros (miners barrios) that settled en masse as a result of the closure of the mines during the 1980s. These barrios are known locally for their efficient organising around basic service provision, drawing on their experience of syndicalism while living in mining regions, but also because they have a shared history with their neighbours and come from the same places, or have worked in the same industry. They do not, however, constitute the majority of barrios in the Zona Sur. A

representative of an NGO that supports DWCs, whose role is to coordinate capacity building projects with diverse water committees across the Zona Sur explained the phenomenon as follows:

Some barrios have stronger cultural base than others; and you really can't make comparisons between barrios. For example in Villa Pagador there are lots of Orureños and Pacenos who have managed to cooperate and work together for lots of different basic services. When you compare my barrio to Villa Pagador, Villa Pagador has only been here for about 15 years, and I am ashamed of my barrio compared to it. My barrio has been here for 30 years and it does and has nothing. is a very strong indicator as to the sorts of social organising one will see in a barrio. Barrios that have a strong mining and rural presence have a very strong sense of organisation.<sup>93</sup>

Barrio 15 de Febrero is not a mining barrio, and is made up of migrants from across the country. During the last census undertaken in 2001, Villa 15 de Febrero had a population of 1657. Migrants predominantly came from Oruro 160, Potosí 168, La Paz 236 and the broader department of Cochabamba 126 with other vecinos coming from diverse location all over the country.

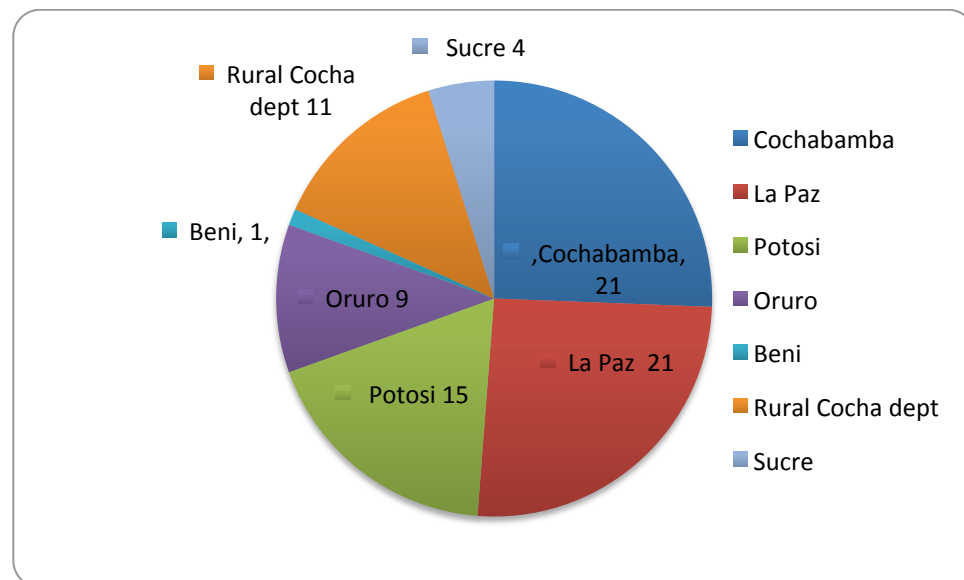


Figure 15: Migration into the barrio

Data gathered through household surveys shows that inter-departmental migration from rural areas to the south of the city has accounted for the

<sup>93</sup> NGO employee, Cochabamba, July 29th 2011

majority of migration to the barrio during the last 5 years. While this thesis does not have the scope to explore how migration affects patterns of organising within the Zona Sur, it is widely recognised that not all barrios are as homogenous as the mining barrios. Many, like Villa 15 de Febrero, are populated in a disjointed manner as a result of multiple waves of migration from across the country. Consequently, they do not have the collective memory and shared identity, on which mining barrios can draw.

Vecinos began populating the region haphazardly in the early 1980s when plots of land were available to purchase. While there is no documentation of the history of the barrio, the following section draws on group discussions with a several barrio elders. A group of enterprising *loteadoras* acquired different parts of the Zona Sur illegally, each one forming a new barrio. The land that is now the barrio had been appropriated illegally by one *loteadora* who did not live in the barrio. Land was divided into lots that were sold on for profit. Newcomers could buy a block or '*manzana*' of between 250 – 300 square meters for 1500 bs (roughly £150), this would then be divided into 8 *lottes* so that it could be built on or resold to families for building. The municipal government pursued a policy of exclusion as opposed to inclusion of informal communities during the 1980s (Goldstein 2004: 79), which allowed the *loteadoras* to flourish without regulation and meant that vecinos began organizing amongst themselves to develop the community in the absence of the state. In Villa 15 de Febrero, weekly gatherings in which the *loteadora* could collect debts owed, developed into organising meetings, where the *vecinos* would make decisions about where lots should be and how they should be divided. This provided further opportunities for *vecinos* to discuss and plan infrastructure and necessary basic services and became the precursor of the future residents' association meetings. The *loteadora* had constructed simple pathways primarily to facilitate the sale of lots, but not to satisfy the needs of the *vecinos*. The barrio was thus based on fragmented foundations, the barrio developed one *manzana* at a time, often at a varying pace, and this created socio-spatial inequalities from the outset. Indeed, while the community worked as a

whole to build and develop some services and infrastructure such as pathways, roads, and a minibus service, *vecinos* were also simultaneously organising at the level of the *manzana*. This led to unequal development and access to certain services, undermining the unilateral development of the community.

While the barrio was by no means a 'mining barrio', the first wave of mining migrants who arrived in the mid 1980s boosted the population dramatically and thus the development of the barrio, according to *vecinos* who lived there during this period. The *loteadora* meetings eventually made way for a *Junta Vecinal*, (Residents' Association) which would make decisions about basic service provision and the development of the barrio. Following the trend observed throughout the *Zona Sur* during this period where *loteadoras* or their spouse or children became the first *dirigente* (leader) (Nelson, 2007). In Villa 15 de Febrero the wife of the *loteador* became the neighbourhood *dirigente*, illustrating how much influence the *loteadoras* continued to have in the region, even after all lots were sold off and barrios were consolidated as one under each neighbourhood association.

Piecemeal development of the barrio continued during the 1990s. As the population of the *Zona Sur* was growing and so were demands for basic services that only the state could supply. Electricity, as an example, was put in place one *manzana* at a time, and not by the community as a whole. The first electricity posts arrived in 1990 and were erected along the main roads to the barrio bringing street lighting to the centre of the barrio. One mother, who moved to the barrio in 2000, explained how she and her neighbours organised to bring electricity to the southeastern corner of the barrio soon after she arrived. She was one of several parents who wanted to secure electricity for their children to be able to do their homework at night, and so that they could walk back from classes safely in the evening. Together, they lobbied the neighbourhood association to approach the municipality to expand electricity provision in the barrio. Each family contributed \$50 for the posts required to bring light and

electricity to their streets. Vecinos have thus driven the gradual development of the barrio, but not always as a whole as development of services, and the demand for those services, has been fragmented at this level. Consequently development and basic service provision has and continues to be uneven. Development according to *manzana* re-enforces the disconnectedness of the community and throughout this chapter I argue that this pattern on *manzana* by *manzana* development, and the fragmented social fabric has undermined community-wide approaches. Piecemeal development has meant that some areas became more desirable than others and that some areas are thought to be more dangerous; as a result vecinos tend to work for the benefit of their *manzana* for their security. Today, in the north of the barrio several streets have built blockades at either end of their streets, which they patrol to defend their property from thieves and gangs and to keep non-vecinos out.

Agua Sur provision is similarly unequal. First, not all vecinos are socios. When Agua Sur began operating in 1999, vecinos and Doña Petra have described to me how water was available to all members for at least a few hours every day, and that during this period almost all vecinos were members. Today, it is estimated that 370 households over 2 barrios have access to the system. There have always been parts of Villa 15 de Febrero that have relied on aguateros for their water. As the Zona Sur has grown, the committee has not been able to provide to everyone as a result of dwindling water supplies and infrastructural deficiencies. Socios who had been in the barrio longer and who lived closer to the tank had better access to the service. The committee president Don Faustino<sup>94</sup> explained that just before they started upgrading the system in 2009, water was available twice a day for most vecinos, depending on where they lived in the barrio. Vecinos, however, recalled that water was often only available a few times a week. We can conclude that water was not available continuously, and moreover, some residents had better access

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<sup>94</sup> Pseudonym



than others, with those living closer to the tank able to access more water at the expense of the vecinos further away. This problem was often exacerbated by vecinos who installed large water storage tanks that they would fill with committee water and use for the week and were not perturbed about restricting the water available to other committee members.

The inequity of the system was exacerbated over time, the community outgrew the original water system. New migrants to the substantially cheaper areas on the fringe of the barrio had more limited access to basic services including water, as the original system did not reach them further compounding the inequality. These vecinos on the fringes have always depended solely on water from aguateros, with most households relying on the water bought and stored in turils (barrels). Third, and significantly, the join up fee for the DWC has increased over time. The PASAAS project funded the expansion of the water system to the whole barrio, but those who were not already members were faced with a join-up fee of \$250, a common and contentious fee throughout the Zona Sur, which meant that the poorest vecinos on the south-eastern fringes could not afford to join. The sign up fee seemed unfair to new residents, because original members paid small contributions of between \$30 and \$40. Although water committees are non-profit making organisations, membership costs are in place because the original vecinos have contributed physically through workdays and by attending meetings. Agua Sur feels it would be unfair to let new members join without contributing something, and the contention arises because this contribution is generally financial, there are no options to pay in kind, and it isn't always clear how the money is used. This not only excludes the poorest vecinos in the barrio, but, for newcomers to the barrio, the lack of transparency undermines the idea that the committees of the Zona Sur are based on communitarian and non-profit orientated principles

### **Institutional sustainability**

The following section considers some of the factors that affect the

institutional sustainability of water provision in the peri-urban interface. The endeavours of state organisations such as SENASBA, social organisations such as ASICASUDD-EPSAS, and the NGOs that support them have focussed on building the institutional sustainability of DWCs. This section considers some of the factors that impinge on the institutional sustainability of DWCs. Chapter 2 discussed how the sustainability of water provision in rural areas has highlighted the need to encourage and support the participation of communities in water systems to ensure institutional sustainability. In the following pages I discuss why communities chose to continue to participate in their water systems despite their failings and weaknesses, the implications of this, and some of the specific social dynamics that characterise the peri-urban interface that can undermine the institutional sustainability of DWCs.

As highlighted in previous chapters, neoliberal reforms focussed on decentralisation during the 1990s galvanized the idea of the community as provider in urban and peri-urban areas through the Ley de Participacion Popular law (LPP, discussed in chapters 3, 4, and 5). Decentralising decision-making to formally recognised community organisations called OTBs (Base Territorial Organizations) was billed as a method of enabling the participation of communities in local politics and developing and democratising the state (McNeish 2006). This was also in keeping with the neoliberal trends of the time to build inclusive multicultural societies (Albro 2010). Villa 15 de Febrero achieved OTB status in 1998, but like many other OTBs in the Zona Sur, was unable to deliver basic services such as water because they decided not to use their allocated funding from the municipality to do so. Some claimed it would not have been enough money to build a water system, while others told me they chose to spend it on other services. This contributed to the emergence of the water committees as alternative local providers in some parts of the Zona Sur, but not everywhere. Thus, while LPP reforms decentralised some agency over local development to communities, for the communities of the southern zone, these reforms were not enough for vecinos to be able to improve barrios, nor to enable and fund the

integrated development that vecinos were demanding. Speaking on behalf of the Movement of the Men and Women of the Zona Sur, in 2006, 12 years after the introduction of the LPP, Abraham Grandiddyer explained some of the popular misgivings of some vecinos towards OTBs in the Zona Sur:

We want to build our own future, our own destiny, and make decisions on what we want about what we pay, because the taxes we pay selling our goods at the markets in the centre of the city are not making it back to the south. These financial resources are not returning to the Zona Sur. Instead they have been spent corrupting a group of leaders who are only concerned with the power of working for the state, and all we are left with are the crumbs of "popular participation" which brings a small playing field to a barrio, but not integrated development to the region. (Grandiddyer 2006:350)

The development of DWCs and alternative community-led organizations for basic service provision in the Zona Sur demonstrates that there has been a bottom-up movement seeking an alternative development paradigm that devolves more agency, and autonomy to the barrios. It has, however, emerged out of necessity. From early on the demands relating to water have not necessarily been straightforward demands for the fulfilment of civil rights, human rights or state-led development; instead there has been a drive for further decentralization of funds and increased agency in local development, but not necessarily outright autonomy.

Undertaking a micro-level analysis of one DWC one can really explore how the DWCs emerged, but also how autonomous DWCs really are. ASICASUDD-EPSAS has created an identity based on more autonomous notions, creating a hybrid communitarian logic that has evolved as a result of the coming together of rural and mining migrants in the southern zone and a broader idea of peri-urban uses and customs.

The communitarian logic that exists widely here comes from our rural and union traditions but which have come to adapt and exist in urban areas, we are distinctive to water

cooperatives, existing in a more traditional form, which the government often fails to take into consideration.<sup>95</sup>

This is a useful discourse to unify the DWCs under ASICASUDD-EPSAS, and it taps into the state discourse of uses and customs established by the indigenous social movements but enshrined in the constitution. In practice almost all of the ASICASUDD-EPSAS DWCs first developed as a result of interventions by the church during the 1990s and early 2000s to support communities in their endeavours to improve access to water in the Zona Sur. This was in keeping with the political reforms to the water sector during the 1990s and 2000s which promoted NGOs and CBOs and their capacity to support the development of the water sector, as part of efforts to streamline the role of the state.<sup>96</sup> In the opinion of the president of Agua Sur, the emergence of the committee was less strategic; in his eyes and in light of the history of Agua Sur, the committees evolved as a coping mechanism in the face of state failures, and they have been highly dependent on the impetus and support of the church.

They are not an expression of citizen-led development and autonomy. "This committee emerged out of an absence of provision by the municipality and SEMAPA... it's because the devolved OTB systems and their relationship with the state were not developed sufficiently to improve access to water in the barrio. We emerged as a result of that failure, which is why there is some tension between the OTB and the committees... throughout the Zona Sur. We started as a small committee with the help of the church that brought us together... uff... if you need water in your house, what are you going to do".<sup>97</sup>

Doña Petra believes the development of the committee was as a result of the interventions made by one priest: Padre Javier, and that the committees persist because of the support they receive from NGOs.

It was all down to Padre Javier that we have the system; thanks

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<sup>95</sup> Abraham Grandiddy speaking at a meeting *Water and the process of Legislative and Institutional Reform: Between the Right to water and the Commons* 25<sup>th</sup> to 26<sup>th</sup> of July 2011

<sup>96</sup> Senior NGO employee, Cochabamba, December 1st 2009.

<sup>97</sup> Water Committee Director, Cochabamba, May 30th, 2010

to him we have the committee... These institutions (churches, NGOs) really help us, they come in and they help us to be able to pursue our project, and they should be applauded and thanked.<sup>98</sup>

While the well was owned and managed by the community, Padre Javier had a substantial degree of influence over the formation of Agua Sur. He suggested that if the neighbouring barrios of 15 de Febrero and 17 de Noviembre (which acrimoniously split in 1980) work together they would be better placed to develop a system that could serve the needs of both communities. The vecinos who wanted to be part of the committee contributed \$40 for the construction of a pipeline and the unsuccessful excavation of a second and third well, which did not have sufficient water volume to become operational. Nonetheless, barrio elders talk proudly about being involved in the water committee from the outset.

There were some vecinos who didn't believe that there was water there. They asked where is the water going to come from and honestly they didn't want to spend the money. But I believed, I put \$40 in at the very beginning.<sup>99</sup>

The vecinos constructed the foundations of the system; they dug ditches for pipelines and helped construct the water tank (see figure 16). They oversaw the excavation of the well and the laying of the pipes. Once the system was up and running, Padre Javier and the church left the management and development of the system in the hands of a water committee. The foundations of the committee were built collectively with the help of the church, and vecinos talk proudly about those early days. The broad aim of the water committee is to be able to supply water to all vecinos in the barrio, using a statute of rights and obligations that were agreed collectively by the original committee members.

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<sup>98</sup> Water Committee Secretary, Cochabamba, June 12th, 2010

<sup>99</sup> Resident's Association treasurer, Cochabamba, July 1st, 2010



Figure 16: Water Tank

Amongst the *vecinos* of the *barrio*, the idea of uses and customs that draw on transplanted union and indigenous traditions brought by groups of migrants during the 1990s does not apply in the same way as in other parts of the Zona Sur, or in the case of El Alto, which has been well-documented (Lazar 2008). Instead *vecinos* draw on an idea of uses and customs distinctive to the peri-urban Zona Sur.

El alma' (the spirit of) *usos y costumbres* in the peri-urban south is based in the collective management and decision-making process around the management of water in the *barrio*. The idea of *usos y costumbres* has generally been linked to rural water systems (consumer and irrigation), but that is not to say we do not have an essence of 'usos y costumbres' here in the Zona Sur. We have norms, rights and obligations that shape and define each committee, but they are dynamic and changeable, and reflect the fast changing circumstances that committees operate under.<sup>100</sup>

This somewhat romantic idea of peri-urban 'usos y costumbres' forms part of an identity and agency that the DWCs, specifically those who are members of ASICASUDD-EPSAS, have developed over time. This emerged during the Water War when it became politically unviable for the state to co-opt or usurp local water providers, and communal providers

<sup>100</sup> NGO employee and DWC member October 2nd, 2011

recognised the agency that they now have in light of this political shift. Peri-urban DWCs are thus using the language of *usos y costumbres*, which has traditionally been adopted by the irrigators in relation to water (Perreault 2008), and indigenous social movements that are seeking to defend communal structures of organisation. It is used by the peri-urban DWCs similarly to define and defend their water systems and right to provide water.

This has been further consolidated by on-going struggles to secure the water rights and future of DWCs by organisations such as ASICASUDD-EPSAS, even if many of the DWCs (Including Agua Sur) weren't part of the Water War. Historical narratives and popular culture surrounding the Water War set out how the DWCs played a considerable role in the rebellion, standing alongside the irrigators in defence of rights to local water resources (Terhorst 2003), but this was not strictly the case,

We never participated in the Water War – it was 2 years after the committee was established, it was mainly the people of the city and the barrios nearer the centre, no one from the committees around here participated. Some may have participated independently, but no one came here and invited us to participate...<sup>101</sup>

Doña Petra reveals how the mythology that the Water War brought all communal providers together in defence of their local water rights is not wholly accurate. This paints a somewhat different picture of the Water War as a struggle that was led by the urban barrios from the centre of the city, who fought alongside the rural irrigators, while the emerging peri-urban DWCs were still establishing themselves. The Bechtel concession encompassed Villa 15 de Febrero, but during the year that it was responsible for water provision, its influence did not reach as far south as the barrio, as such, the residents here remained unaffected by the privatisation. In sum if we take a closer look at the intricacies of the Zona Sur we discover that there are different strata of exclusion and marginalisation. While communities here do not have the same 'rights to the city' as those living in the centre, some have better coping

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<sup>101</sup> Water secretary, Cochabamba, September 10th

mechanisms to deal with basic service provision; others are better organised and ready to defend local water rights and water systems; others have lived in isolated pockets without a DWC or even a neighbourhood association. For those more marginalised communities the Water War was something only those who were *close to the city* could participate in.

Nonetheless, post- Water War, the political climate and the formation of ASICASUDD-EPSAS buoyed the DWCs as they attracted funding, were able to offer collective support, and ultimately developed strength in numbers. Agua Sur was one of the first committees to join ASICASUDD-EPSAS in 2004 at a time when they were in need of support.

The problem is that we have always been underfunded... then ASICASUDD-EPSAS came to us and told us that they could help us to bring water to the barrio, whether by bringing it from other regions or by digging other wells, there were a whole range of solutions that were put forward, and that they could work with us to bring better water to the region... This brought the possibility of new projects...like the new water pipeline<sup>102</sup>

The organisation thus provided the water committees with the opportunity to cooperate in order to improve their water systems and share experiences of water provision, to learn how to make their committees more sustainable as institutions, but also to focus on how best to exploit and protect the water resources that the committees are formed around. Doña Petra's words also reveal how the role and influence of the Minister for Water Rene Orellana between 2008-10 was felt and appreciated right down to the level of the community, as discussed in the previous chapter.

The committees are encouraged to attend workshops and events that are held with the participation of other NGOs and research institutions with an interest in the Zona Sur. The NGO Agua Sustantable put on a series of workshops on how best to manage and protect a committee well, while there is a network of NGOs that work specifically on projects to support

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<sup>102</sup> Water secretary, Cochabamba, June 14th 2010



and build the capacity of water committees in the Zona Sur. ASICASUDD-EPSAS brings committee members together so that they can learn together, organising visits to exemplary communitarian water systems in the Zona Sur, but also further afield in other peri-urban regions of Bolivia. At the level of the community, water workshops have provided Agua Sur with opportunities to work with other water committees in the region, linking them to communities that they previously had no contact with. Doña Petra spends her Saturdays working with a recently established water committee a mile north of Villa 15 de Febrero. They rely on water that is delivered by tanker twice a week, and Doña Petra helps administer payments from the vecinos on a voluntary basis.

Agua Sur is the product of several non-state interventions in the Zona Sur, and has never been truly autonomous, relying on the support of the church, ASICASU-EPSAS, and as we shall see later in this chapter new initiatives by the Ministry for Water and the Environment. While the DWCs have been able to develop capacity, and receive further support through their membership of ASICASUDD-EPSAS, both the historical development of the barrio and the physical and institutional development of the water committee explain why provision has always been uneven and insufficient. It is clear that some of the social dynamics and processes that characterise the peri-urban undermine the capacity of DWCs to provide universal access across the barrio.

### **Peri-urban dynamics and the institutional sustainability of the DWC**

Participation in the management of the committee is a method of fostering a sense of ownership amongst the vecinos. It also helps embed the committee in the barrio, and secures its future. Without the support of the vecinos the committee would cease to exist. However, the nature of participation in the day-to-day management and development of the DWC has changed over time, and the opportunities for participation of socios in workdays are limited. In the peri-urban regions of Cochabamba with more rural characteristics such as La Maica, where there is water (although

saline), it is still possible for socios to participate in workdays, and participation in meetings is commonplace. In Villa 15 de Febrero, where the region is more densely populated and water is scarce, the water committee has had to bring in outside water sources. Contractors and builders under the direction of the directive board now excavate pipelines and wells (see figure 17). Workdays have become less frequent, and membership has become increasingly dependent on financial contributions as opposed to participation in workdays and planning meetings. During the time I was in the barrio there was just one work day to clean out the water tank, requiring only a few people, whereas when the first pipeline was installed, there were lots of opportunities for vecinos to contribute physically. Now the committee has brought in outside contractors for work such as the new pipeline. In part this is because the committee has increasingly come to rely on more technical solutions, for example installing meters. Participation in water management has been advocated as a method of developing the institutional sustainability of a water system (Mehta, Marshall et al. 2007), but with limited opportunities to participate, there are fewer opportunities for vecinos to foster a sense of ownership over the system.

The fine system for failing to turn up to meetings, marches and workdays has never been rigorously implemented and as a result many vecinos have unpaid fines that date back years. As vecinos come to participate less and less in the running of the committee, they increasingly see the DWC as a paid basic service provider, rather than a community owned and collaboratively managed water source. It is commonplace to hear the vecinos refer to the committee as 'a service', or 'the level of service' that they have received from the committee. They make



comparisons between the service and water provision in the centre of the city. There is little sense of ownership and participation in meetings is seen as a chore.

“When there was water here, it was dirty. I still participate in the meetings but only because I have to”<sup>103</sup>

We used to have saline water running from the taps, I rarely participated in meetings back then, I participate less now<sup>104</sup>

<sup>103</sup> Barrio resident, Cochabamba, May 12th 2010

<sup>104</sup> Barrio resident, Cochabamba, May 13th

The committee's relationship with the vecinos had started to deteriorate with the decline in water quality and quantity. As outlined earlier in this chapter, the arrival of the PASAAS project to extend the water network, meant that the water committee was out of action for over a year, consequently, meetings reduced to once every few months to update vecinos on the progress of the project and most decisions relating to the project were made by the committee leaders and outside contractors. Participation in committee meetings declined to about 60% of Socios while the water pipeline was under construction. Declining levels of participation has negative impacts on the institutional sustainability of the DWC. Plans around developing and capacity building peri-urban DWCs are likely to be thwarted if community members are unwilling to participate or don't feel a sense of ownership over the DWC.

By the time I left the barrio in December 2010, the pipeline was complete. During the last committee meeting of the year it was agreed that vecinos would each pay for the installation of their meters and then in the New Year the pipeline would be inaugurated. After the meeting I spoke with Doña Petra, and asked her where the water was going to come from. The well had become increasingly saline, and the results of the Agua Sustentable report had deemed the water unfit for human consumption. She explained to me that they would probably buy in water in bulk several times a week. ASICASUDD-EPAS could help them set up a contract with SEMAPA or perhaps a private water vendor in the north of Cochabamba. I was surprised at this decision, particularly in light of stories I had heard about Agua Sur's past experiences of buying in water in bulk.

Specifically, in 2007, the water committee entered into an agreement that enabled them to hire a water cistern from ASICASUDD-EPAS that would deliver clean water from the SEMAPA plant. The cost to socios was 35 pence per turil (200ltrs), which was 15 pence cheaper than the aguateros, but was guaranteed to be of the same quality as the water

used by the Cochabambinos living in the centre of the city. This was hailed in the local press as a breakthrough for water provision in the Zona Sur. Water committees were now able to continue to manage the water supply within the barrios, with a clean and reliable water source. However, there were immediate problems with this system; Don Faustino explained:

The first week our deliveries provided the vecinos with too much water, but by the second week, there was not enough water to go around.

Don Faustino called an emergency general meeting, to ask if anyone knew where the water had gone.

No one spoke up during the meeting, and during the following weeks the water continued to disappear before households in the north of the barrio had received any. It was obvious that some vecinos were filling large water tanks up when the water arrived, leaving the rest of the barrio with nothing<sup>105</sup>.

Furthermore vecinos who were not part of the committee had set up clandestine connections, to steal water.

While the committee is technically owned and managed by the vecinos, theft by deception, or evasion of bill paying by committee members is commonplace. Many vecinos are happy to cheat and undermine the system, for example tampering with meters, without regard for the effect on other members. The president explained that there was one incident when some vecinos collected gallons of water without paying and sold it on for a profit; others have claimed a problem with their meter in an attempt to avoid paying for water consumed; and other vecinos just avoid paying<sup>106</sup>. Doña Roxana spends many mornings collecting debts, but some vecinos refuse to open the door to her and hide, or even run away from her. Beyond the financial implications, this has further detrimental affects on the committee because debtors avoid committee management meetings. Some other non-committee members have installed clandestine connections to the water network, either by tapping into the

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<sup>105</sup> Water Committee President, Cochabamba, May 30th

<sup>106</sup> Water Committee President, Cochabamba, May 30th

pipeline, or more recently, by persuading contractors who are fitting the new pipeline that they are paid members. This has been further compounded by the fact that many vecinos did not pay for their water on time. As a result, three months after the water cistern arrived, the committee had accrued so much debt due to non-payments that they could no longer afford to pay for the water deliveries. The committee then went back to using water from the well, which was saline, contaminated and only able to provide an estimated 30% of the water needs of the barrio.<sup>107</sup> The experiences of 2009 suggest that some vecinos do not feel any collective ownership, as they are willing to cheat the system and steal from it. This has considerable implications for any reforms focussed on developing and advocating community-led water systems in the peri-urban interface.

### **The impact of diverging urban aspirations on institutional sustainability**

The changing aspirations and desires of peri-urban communities also appear to affect the institutional sustainability of water provision in the peri-urban interface. An employee of an NGO that works to support the work of the DWCs, explained how broader patterns of migration to the region can undermine the institutional sustainability of DWCs

...They (the vecinos) have a very different idea of development and what it is to live in a city, different to those from the west (mining regions)... their vision of development is very urban... they have a different idea about what it means to live in a city<sup>108</sup>.

These words are particularly insightful. In Villa 15 de Febrero there are diverging aspirations that are reflected in the ways that vecinos want to access water. There are those who want to be equal to those who live in the centre of the city, they want the basic services and rights that Cochabambinos in the centre of the city have, akin to the right to the city (Harvey 2006). This is evident amongst the younger generation who have a more individualist perspective on provision. They feel that they

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<sup>107</sup> DWC Leader, Villa 15 de Febrero, June 15th 2010

<sup>108</sup> NGO employee, Cochabamba, September 10th 2010

should not have to participate in the water committee, and instead water should come from a provider. Carlos who has been a water committee *dirigente* for several years set out how he found that within his barrio migrants that had been to Spain, which is a common phenomenon in the Zona Sur (Cielo and Cespedes 2008), were unwilling to participate in water meetings and the committee when they returned, preferring to pay for their water to come from the aguateros, and with aspirations that SEMAPA would arrive one day. He explained this to me as people becoming '*more urban*'; that the water committees nearest the centre were increasingly willing to give up their systems if SEMAPA could expand provision to the region. Migrant populations often returned, to build their big 'modern' houses where their old adobe houses once stood. Amongst these returning migrants, there was less willingness to participate in water committee meetings, preferring to install a water tank and have an aguatero fill it every so often. Declining participation affects some of the barrios closer to the urban centre, but it is a sentiment that is increasingly apparent further from the centre, particularly as the standard of provision has declined and solutions to water provision become more elaborate and less grounded in the community. During one of my final meetings with the leader of a neighbouring water committee, I asked him what he thought the biggest threat to the water committees would be in the future. He explained:

The people, they are becoming more urban; more individualistic in their outlook they have a different mentality to before.... The youth they are willing to criticise the water committee, but they are not willing to participate in the meetings or become a member of the directive<sup>109</sup>.

As this chapter has highlighted, Villa 15 de Febrero has always been a socially fragmented space, where vecinos have resorted to individual and collective strategies for basic service provision in different contexts during different periods. As the region becomes more urbanised and the committee becomes less effective, the vecinos appear to be turning to more individualist strategies. Being so close to the centre of the city,

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<sup>109</sup> DWC leader, Cochabamba, 20th September 2011

many in the Zona Sur increasingly feel that they should be entitled to the same services as those living in the centre.

I have been a member for 2 years, there used to be water on a Sunday, but it was quite saline, we used to have to participate in the water meetings, but we have to participate in lots of meetings for all our basic services... it's not fair as it takes up so much of our time, not like those in the north... the *jailones* (derogative term for the elites), they don't have to go to meetings to get water.<sup>110</sup>

Having a water committee and having to participate in management meetings, is increasingly seen as a burden, and is also recognised as symptomatic of the inequalities that not only persist in the Zona Sur but in the city as a whole. For vecinos who feel this way, the policies to formalize the water committees only serve to re-enforce this inequality. This is symptomatic of a broader trend in the Zona Sur; the communities who became notorious for defending their right to provide water in the Zona Sur are now filled with 'urban' aspirations for equal water services.

We in the Zona Sur we are the ones who have fought for water... but the vecinos today, they don't care<sup>111</sup>

Collective sentiments do persist, however, even though the capacity and future of the DWCs is not secure. As I have argued earlier in this thesis, DWCs may not always be efficient water providers, but they have created spaces for the participation of previously marginalized groups in policy and planning for the water sector. The committees have led campaigns that have focussed on improving access to water, but in a way that allows the DWCs to retain some agency and manage water supplies according to their own uses and customs. As the committee's capacity to provide has become compromised, and the communities have developed, the aspirations of the vecinos, particularly the younger generation, have turned towards equality. For some vecinos the aspiration is now equal services and provision, which appears to undermine the role and future of the DWC.

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<sup>110</sup> Vecino, Villa 15 de Febrero, August 1st 2010

<sup>111</sup> Treasurer Agua Sur, Villa Juan 23, June 26th 2010



### **Local power relations and control over water services**

As outlined throughout this thesis, the peri-urban interface is characterised by juridical plurality. There are contested ideas about who should manage water services on a local level similarly to those that exist at the level of the Zona Sur and the municipality. This is particularly pronounced between the DWC and the residents association. I demonstrate how both actors mobilise the idea of the right to water in different ways to undermine the other. In the following section I explore how this affects the sustainability of water provision in the barrio.

The idea of the right to water remains somewhat intangible and has been subject to diverse framings and interpretations. Within district 8, it has been mobilised locally for different political ends leading to conflict within and between communities. The notion of the human right to water is poorly defined by the government (as outlined in chapter 3), and contested by broader social organisations such as ASICASUDD-EPSAS (as outlined in chapter 4). As a result, in the barrio, social leaders and *vecinos* are unclear as to the significance of the human right to water and its implications for water provision. If they are familiar with the human right to water, they feel that considering the government's neglect of peri-urban communities in the past, it is unlikely that the government will recognise and enact their human rights. Conversely, there were some *vecinos* who thought the OTB and not the committee should manage the supply, highlighting the on-going conflict between the OTB and the committee. There were a few vocal *vecinos* who were keen to see the state, in the form of SEMAPA, provide water to the barrio; suggesting that if they were really equal citizens to those in the centre, they would receive the same service as them. These opinions represent the three competing ideas of water management that exist in Villa 15 de Febrero; community level management by the committee, or by the OTB, or a more 'urban' idea that water should be provided to the community, and not by the community.

Over the course of the few months that I was in the barrio *vecinos*

increasingly became aware of a right to water, but not by way of more projects and new water policies, instead it was shaped by the OTB and the Committee; both of whom had very different understandings of the right to water and what it might mean for the barrio.

They told us about the right to water at the Committee, but I don't really know what it means to me.<sup>112</sup>

I heard about the Right to water at the OTB meeting, it means that water should be free.<sup>113</sup>

There are people here who think the right to water means free water, that's not the case.<sup>114</sup>

In NVC, the OTB dirigente has tried to mobilize this idea that the water should be free, which is not true. We know that the water is free but the pipes are not free... they think that these services will just fall from the sky into their houses, well that isn't the case.<sup>115</sup>

Tensions have existed between the OTB and the water committee for some time; OTB leaders generally earn kudos and are able to retain their position as president if they bring projects to the barrio. Water provision is one such service, and some barrios have been able to use decentralised state funding to construct a water system, as outlined in chapter 5. The existence of a water committee in the barrio undermines the president of the OTB as they are filling a gap and providing a service that the OTB could provide. The community has organised and provides a service outside the established formal neighbourhood association. Consequently, the OTB and the water committee are very different entities; the president of the OTB is a paid position through decentralised funds through the state. Individuals who have political ambition beyond the barrio and within the municipality often pursue the position of president. The committee dirigentes are unpaid, and becoming committee president will not help an individual with political aspirations, in fact it is a position that most socios

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<sup>112</sup> Barrio resident, Villa 15 de Febrero, July 10th 2010

<sup>113</sup> Barrio resident, Villa 15 de Febrero, June 21st 2010

<sup>114</sup> Barrio resident, Villa 15 de Febrero, June 22nd 2010

<sup>115</sup> Treasurer Agua Sur DWC, Villa 15 de Febrero, June 1st 2010

are unwilling to take up, because of the weight of responsibility attached to it.

On the surface this would appear to be a confrontation between the apparatus of the state (in the form of the OTB) and the community. However, reforms that have been implemented since the Water War have also focussed on formalising and regulating the DWCs, as discussed in chapters 4 and 6. Since 2009/2010 Water Committees have been put under increasing pressure to formalise by the state, and obtain licences from the Comité Técnico de Licencias y Registros, as outlined in chapter 4 and 6. This is a local institution decentralized from AAPS (the national regulator) based in the city of Cochabamba, which is in charge of formalizing informal providers within the department with a view to future regulation. Agua Sur were one of the first committees in the Zona Sur to receive a license for the right to exploit a water source and provide to an agreed area, in March 2009, and was facilitated as a result of their membership to ASICASUDD-EPSAS. During this period, President Morales handed out licenses that guarantee and protect the usufruct rights of the water committee to water sources and cement their role in the community as water provider in a given area. This was much to the annoyance of the OTB, whose local president believes that water provision should be under the remit of the OTB.

The president of the OTB openly discussed 'appropriating' the water system from the committee and on behalf of the OTB. During neighbourhood meetings he would criticise committee projects, and undermine the work of the water committee. The president of the OTB was highly critical of the PASAAS funded pipeline brought to the barrio. He attacked the project on the basis that the committee was charging vecinos who wanted to join the committee £200, to be paid in instalments. Mobilising the words of the constitution, '*Water is a human right*', he argued that the state must provide, and as this is a state sanctioned project, he questioned why the vecinos of Villa 15 de Febrero should pay. Don Faustino, the leader of the DWC would address the vecinos during

the OTB meetings and explain that while the pipeline had been provided by the state, the membership fees would meet further upgrading and operational costs, and membership fees had always been a pre-requisite for joining the committee.

There are thus two competing ideologies around water provision in the Zona Sur. The first is an argument for public water, funded by the state with limited inputs from the community, like that available to citizens in the centre of the city. This argument has been complicated by the OTB president's talk of free water, despite no backing for this in the constitution. Then there is the enduring ideology of the committee that builds water infrastructure and manages its distribution. Again this idea has become somewhat opaque and confused by the idea of the human right to water and related reforms to the water sector that formalise water committees through licences, financial support and capacity building exercises. Doña Roxana<sup>116</sup> the Treasurer of Agua Sur told me an anecdote that demonstrates the different ideas that exist around water provision.

I was in the street the other day and my neighbour approached me, he said 'hey, why should we pay for water when President Evo says it's free', I responded, 'The water may be free but the pipes and tanks and all the infrastructure is not free... you get Evo to come here and ask him where this free water is', well that soon shut him up.<sup>117</sup>

The community has been let down by the state on numerous occasions, and therefore has little faith in the reforms to recognise the right to water and continues to persist with efforts to develop the DWC as the local water provider.

We have a very beautiful constitution, which talks about the right to water and says that we all have the right to water. It's very pretty. They say, 'In Bolivia you must all be so happy they have recognised the right to water,' but the reality is something else... What is written is one thing but the reality is different. People say but we have the right to water, but there is no water, we would like to be able to see the right to water in action, but how can we

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<sup>116</sup> Pseudonym

<sup>117</sup> Treasurer Agua Sur DWC, Villa 15 de Febrero, June 1st 2010

when there is no water...We have all fought and blockaded for water, and now we have The Right, but now what do we do, and what does it mean? There is no water here, the state has not brought it, and so we have to do something in the meantime<sup>118</sup>.

The DWC president's reflections on the constitution highlight the failings of constitutional amendments to deliver water to the peri-urban interface, and how the language of rights that has been mobilised by the OTB undermines the work of the water committee. The futility of the rights-based approach in the peri-urban interface, where the state has delivered very little, is clear here and demonstrates how the discourse of the human right to water can work against the culture of community-led water provision that the water committee has been building since 1999. The notion that water is free undermines a committee that hinges on mobilising vecinos to work for water, through mobilisations, participation in decision making processes, work days and financially, to collectively develop an effective system.

To summarise, two diverging struggles are emerging in the peri-urban interface: some vecinos wanting the right to urban water, with minimum participation and equality with their urban counterparts, while others are keen to maintain the water committee and localised water governance.

## **Conclusion**

This chapter has presented the history of the development of Villa 15 de Febrero in the Zona Sur. It has systematically considered the challenges and opportunities to build institutional sustainability, and to enhance local environmental integrity and social justice the peri-urban interface. These challenges and opportunities should be considered if DWCs are to go on to play a significant role in water provision and governance in the peri-urban interface, as set in reforms to the water sector since 2006.

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<sup>118</sup> Leader Agua Sur DWC, September 20th 2010

## Chapter 8: Conclusion

I began this process by reading extensively and engaging with theory about the right to water, the peri-urban interface and peri-urban water provision, community water providers and what sustainability means to different groups. I then made it to Bolivia, where I asked a lot of academics and activists what they thought about the right to water and peri-urban water provision. I spoke with planners and policy makers who gave me rather technocratic views on the challenge of water provision. I sat in on ASICASUDD-EPSAS meetings and was inspired by the rhetoric of DWC leaders. Eventually I found Dona Petra and Villa 15 de Febrero, and within a week I started to 'get it'. The Zona Sur is a few miles from the centre of the city but socially and economically it is a world away. The land here is red and parched and its dust is always in the air. It feels dry. Water costs money and costs time, and the water systems that have emerged to provide water here are fragile. These organisations have brought some political visibility and agency to the DWCs, but a whole range of different processes and factors affects their sustainability. In sum, this thesis has allowed me to develop a grounded understanding of the challenges linked to recognising reforms around the right to water in the peri-urban interface, to explore some of the factors that challenge community-driven water provision in peri-urban areas and the potential of co-production strategies such as co-gestion in practice.

The following chapter reflects and summarises the findings of the preceding chapters and how they answer the research questions set out in this thesis. Specifically, how the right to water has framed reforms to the Bolivian water sector since 2006; how and why the right to water has been contested in Bolivia; the impact of reforms to the water sector on peri-urban water committees, and emerging challenges and opportunities for sustainable water provision in peri-urban Bolivia. In doing this, this chapter reflects on how the findings inform wider debates on the right to water, ideas of the community and community water management, and

ideas of sustainable water provision in peri-urban areas. It then reflects on potential areas for further research.

### **Developing and implementing the right to water in Bolivia**

This thesis began by exploring how the human right to water has been developed and implemented in Bolivia. It thus contributes to a small but growing body of literature that critically examines the empirical challenges of implementing the human right to water in the global south (see Loftus and Sultana 2012). It is estimated that there are over 28,000 formal and informal water providers in Bolivia (Campanini, 2007). This thesis has demonstrated that amongst these diverse providers there are many rural and peri-urban community water providers that subvert the established municipal system of water provision in Bolivia. Furthermore, some are willing to fervently defend their local water systems and the uses and customs that they have developed around these systems. The state has attempted to develop a new institutionality for the water sector that accommodates and incorporates the plurality of formal and informal providers that exist. This is part of a process of state consolidation and the development of the pluri-national state of Bolivia. Chapter 4 demonstrates that the right to water remains a fairly nebulous concept in Bolivia but that it has become a banner under which the Bolivian water sector has been reformed. This reflects the reaction to the privatisation agenda of the 1990s embodied by the Water War and the election of President Morales. As of yet, there are no plans to develop the right to water into a justiciable right based on entitlements to quantities of water. In principle, the right to water is a commitment on the part of the state to guaranteeing water provision through established municipal providers, but also by developing, supporting and regulating cooperatives, and community water providers like the peri-urban DWCs. Chapter 4 demonstrates that these reforms include the centralisation of state control by the Ministry for Water and the Environment and the simultaneous recognition and incorporation of non-state providers such as the peri-urban DWCs by the state. This involves developing an extensive new institutionality to capacity-build and regulate water providers that operate

on diverging scales through capacity building organisations such as SENASBA and the national regulator AAPS.

Water provision is being (re)nationalised by incorporating local water providers. This could be framed as a manifestation of the alter-globalization ideals for water provision that have been discussed, theoretically, by Bakker (2007). These are based on “...*reforming rather than abolishing state governance, while fostering and sharing alternative local models of resource management.*” (446), thus creating a more integrated relationship between structures of water governance and the hydro-social cycle (ibid: 448). Or perhaps, this could also be understood as a part of the efforts to consolidate state control over a fragmented water sector in which the state has limited legitimacy. It could also be seen as part of the process to extend the reach of the state and build the pluri-national state of Bolivia. As the state seeks to assert control over the sector, there has been some resistance from the community providers whose systems of provision and *uses and customs* are under threat. This sort of resistance has historically been observed in light of attempts to enclose water provision as part of initiatives to privatise water provision in urban areas, as observed during the Water War. This thesis has reflected on the challenges facing ‘post-neoliberal’ states as they attempt to (re)nationalize water provision following the failures of privatization, in a country where the water sector is physically and ideologically fragmented and where state-citizen bonds are historically weak.

It has been argued that urbanization leads to the peripheralsalisation and marginalization of poverty, including exclusion from access to basic services such as water and sanitation. This thesis has demonstrated that these processes of peripheralisation are not uniform in Bolivia. Chapter 5 demonstrates that water provision in Cochabamba is fragmented and uneven, and while the poorest Cochabambinos continue to rely on aguateros, water provision does not strictly reflect the socio-economic inequalities that characterize the city. This is principally of the failure of SEMAPA to provide effective water provision in all of the areas in which it



operates combined with the efficiency of some suburban and peri-urban community water systems (discussed in chapter 5). This thesis has also highlighted how, the social fabric of peri-urban Cochabamba, the political motivation to introduce the right to water and to some extent the effectiveness of the water committees, are rooted in the socio-economic and cultural history of Bolivia. This history, and the patterns of migration to the cities which came with it, also affects the nature of the resistance to the reforms and the political mindset of those on the peripheries.

### **Contesting the right to water in Bolivia**

From the 1980s to the 2000s there have been numerous examples of social conflicts in Latin America that have been fuelled or exacerbated by the privatisation of water services and liberalization of the water sector, but which have also failed to universalize access to water (Castro 2003). There have consequently been calls for more public-public initiatives and the democratisation of water governance (Castro 2007:115). Chapter 4 demonstrates that in principle post-neoliberal reforms around the right to water appear to be building more democratic structures of water governance where the state and established community providers work together to universalise access to water and thus realise the right to water. However, Chapter 4 and 6 demonstrates that there are concerns amongst activists and peri-urban DWCs that these reforms do not democratise the water sector sufficiently. The state does not have the capacity or the resources to develop effective partnerships with community providers so that they are able to provide universally.

Chapter 4 demonstrated that some water activists in Bolivia have contested the international idea of the right to water on two fronts. First, implementing the human right to water is premised on extending functioning state-citizen relationships and the remit of citizenship to incorporate social and welfare rights. Activist contend that in light of persisting juridical plurality around water provision, and extensive failures of the state to defend human rights and to provide basic services, there have been no struggles on the part of social movements and activists for

the realisation of the human right to water in Bolivia. They have instead tended to focus on the defence of local water rights in rural areas and environmental injustices in mining areas (Comisión para la Gestión Integral del Agua en Bolivia 2009). This in turn echoes some of the philosophical arguments that have been made about the right to water, namely that it is based on western liberal conception of the state. These do not necessarily exist in countries like Bolivia where the state is weak, and non-state forms of provision, which reflect the socio-economic context and necessities, are prevalent. Instead it has been challenged and contested. Second, in principle, reforms around the human right to water in Bolivia endeavour to develop community water providers through capacity building and regulation. However, some activists and social organisations are concerned about the impact that these reforms will have on established community water providers, the way they operate, and the potential for co-option by the state. These concerns highlight how diverse water rights are contested over time, and how reforms to the water sector can affect the roles of the state and community water providers. These reflections are increasingly pertinent in light of on-going reforms to the water sectors of countries where water provision and rights are diverse and fragmented, but in which the state is attempting to develop a sector that incorporates and develops diverse providers, as is on-going in Venezuela, Colombia and Ecuador.

In Bolivia, there is evidently concern that reforms to the water sector might affect the social and political agency and capabilities that informal water providers have harnessed. This agency was demonstrated during the Water War, but also through the establishment of the irrigators' law and the accumulative achievements of ASICASUDD-EPSAS, through their participation in practical and strategic developments within the water sector (discussed in chapter 6). Reforms that seek to regulate these entities could run the risk of co-opting them, thus weakening the social and political agency that these organisations, and the marginalised peri-urban communities of the Zona Sur, have developed.

This thesis also demonstrated how the established model of water governance has been contested and subverted by activists, social movement leaders and DWC leaders. However, on a day-to-day basis the continued presence of hundreds of community water providers in and around the municipality of Cochabamba undermines the established municipal system. Informal water provision exists in many different forms in Cochabamba; some serve the needs of middle class suburbs, while others have emerged as the result of community or NGO-led initiatives. Chapter 5 demonstrates how local social dynamics, and the availability and quality of water resources influence the form and capacity of these community water providers. This research has attempted to contribute to understandings of community water providers in urban and peri-urban settings. It demonstrates that community-led provision is not restricted to marginalised peri-urban communities as a coping mechanism. Indeed, informal providers resist being incorporated into the larger municipal system (as evidenced by the experiences of the mining barrio Villa Juan 23).

The peri-urban communities set to benefit from the JICA<sup>119</sup>-funded water project have similarly requested that they retain a role in water provision, (as discussed in chapter 6). The municipal model continues to be contested as community providers continue to operate as water providers, but also through explicit acts in the face of projects such as the JICA funded expansion discussed in chapter 6. This illustrates the difficulty of implementing state driven right to water reforms in peri-urban communities in countries with weak state-citizen bonds and limited resources. The findings of this thesis also draw into question the applicability of the right to water in this context, or at the very least, the challenges of adopting the right to water in these contexts.

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<sup>119</sup> The Japanese state development agency

### **How reforms since 2006 have affected peri-urban DWCs**

In order to understand the effect of reforms linked to the right to water this thesis has discussed and profiled water provision in the Zona Sur. This in turn contributes to discussions around water provision and governance in peri-urban areas. Chapter 6 and 7 provided an in-depth analysis of the social, political and environmental challenges to improving water provision in peri-urban areas.

Chapter 6 specifically, explores the idea of *co-gestion* as a form of co-production in peri-urban areas, which has been advocated by the community through ASICASUDD-EPSAS. In doing so, this thesis contributes to empirical understandings of co-production. It demonstrates that grass-roots organisations like ASICASUDD-EPSAS are lobbying for *co-gestion*, which can be framed as a form of coproduction. This is because the continued participation of DWCs in the water system has created some political legitimacy and agency amongst member DWCs. *Co-gestion* also allows community members to retain control of water provision in the region, which is important to them seeing as they have been let down by SEMAPA in the past. It also illustrates the mistrust that marginalised peri-urban communities have for state interventions and their quest for legitimacy. However, chapter 6 demonstrates coproduction requires the enduring political support and participation of the state over time, and commitment from central and municipal government. Consequently one-off projects such as PASAAS that was only partially supported by the state have had a limited impact.

Chapter 6 also began to outline some of the limitations to the right to water approach in peri-urban areas. It demonstrates that there has been limited local take up of the discourse of the right to water. ASICASUDD-EPSAS representatives and members have limited faith in the idea of the right to water and continue to lobby for *co-gestion*. Chapter 7 similarly contends that the right to water has limited meaning for the *vecinos* of Villa 15 de Febrero. Instead it is used to fuel local conflict around who controls water provision in the region.

Community water systems have been widely advocated as a solution to water provision in peri-urban areas by NGOs, social organisations and even the state. This thesis demonstrated that community-led water management is opaque and complicated. Chapter 7 demonstrates that peri-urban communities are fragmented, and that DWC-led provision can be unequal. The physical and social dynamics of the peri-urban interface mean that most services are bought in, and mutual aid through workdays and participation is limited. Chapters 6 and 7 also demonstrate that the ideas of 'the community' and 'community water management' are used in a somewhat uncomplicated and romanticised fashion by NGOs, social organisations, and some academics, as alternatives to state provision. However, peri-urban DWCs are far from autonomous. Chapter 6 and 7 demonstrate that the Zona Sur community water providers have always been dependent on the support of NGOs, the church and social organisation, or even decentralised funds from the state.

Chapters 6 and 7 demonstrate some of the challenges facing the state, and any initiatives to address water provision in the peri-urban interface. The state has limited information on the peri-urban interface, and does not have the resources or capacity to engage with the 149 DWCs in the Zona Sur. The state's failure to provide water in the peri-urban interface means that communities can be mistrustful of initiatives. ASICASUDD-EPSAS thus provides a platform by which the new state institutions such as SENASBA can engage with the DWCs. It has also provided a conduit by which funding can be administered to DWCs, and a method by which the state can consult with DWCs about reforms to the water sector. ASICASUDD-EPSAS is not representative of all DWCs and state initiatives in the peri-urban interface have admittedly been limited. However, this thesis has focussed on the organisation because its role reveals the challenges facing the state as it seeks to address water provision in peri-urban areas. These interactions have the potential to subvert and adapt the established scale of water provision in the region. In light of the failings of the municipal water system to provide universally

in Cochabamba, this thesis demonstrates that there are emerging movements and the potential to develop a distinctively peri-urban system of water governance premised on collectively organised DWC-led provision, with the support of the state. To date the state has not had sufficient resources to support the DWCs, and consequently DWC water provision in peri-urban areas is still more expensive, dirtier and less reliable than in the centre of the city.

### **The sustainability of the right to water approach**

This thesis has linked reforms around the right to water with sustainability. This thesis contributes to the work of the STEPS centre which recognises that these framings of sustainability are normative. Frameworks relating to the sustainability of water provision have been developed by development agencies and NGOs over time. These have tended to focus on ideas of institutional sustainability, local environmental integrity (Wateraid 2011, UNICEF-WHO 2011) and sometimes ideas of equity (UNICEF-WHO 2011). These frameworks in themselves are normative and reflect the politics, experiences of development agencies and NGOs over time.

By setting out the experiences of Villa 15 de Febrero, chapter 7 demonstrated that as the state seeks to develop DWCs to be sustainable water providers in peri-urban areas, there are various processes that affect the sustainability of water provision in the peri-urban interface, which have to be reconciled. This includes enhancing local environmental integrity, developing institutional sustainability, building equity and also tackling the different power relations that are symptomatic of the juridical and institutional plurality that characterise the peri-urban interface.

There are specific and serious challenges relating to DWC led water provision and local environmental integrity. Government reforms that focussed on low-level capacity building and infrastructural projects have

yet to tackle sources of biological or chemical contamination to the aquifer, or to secure access to water sources other than the aquifer.

While chapter 5 has demonstrated that there are disparities between urban and peri-urban water provision, chapter 7 demonstrates that water provision within the barrio is also unequal. DWC access does not necessarily mean equitable access. Indeed the socio-political context and piecemeal development of the barrio has led to unequal provision and access. Indeed, the peripheralisation of poverty that characterises the peri-urban interface as a whole is also mirrored at the level of the barrio.

The institutional sustainability is affected by a lack of community cohesion. There is an evident split between residents who remember and recognise the value of the DWC, and members who have more urban aspirations and are averse to participating in the DWC, or who don't mind stealing from the DWC. DWCs are dependent on participation and are premised on ideas of mutual aid and trust, without this their institutional sustainability is undermined.

Finally, there is an on-going struggle for control over water provision in the barrio between the formal residents' association and the DWC. This has been on-going, but of late it has been exacerbated as the residents' association has started mobilising the discourse of the right to water. This struggle for control de-legitimises the DWC at the local level, which impacts on the sustainability of an already fragile institution.

These are just some of the elements that affect the sustainability of water provision in the peri-urban interface, which emerged through the research undertaken for this thesis. This thesis does not endeavour to, nor does it have the scope to, comprehensively explore and develop a framework that set out all the elements and factors that influenced and shaped the sustainability of water provision in the peri-urban interface. Instead, it discussed the institutional sustainability and local environmental integrity,

and the two lesser-explored elements including building equitable access, and the impact of local power relations.

### **Further Research and Investigation**

This thesis set out to establish a broad understanding of reforms to the water sector under the banner of the human right to water, before narrowing the focus to the level of the peri-urban interface, and then specifically to the experiences of one DWC, Agua Sur in Vila 18 de Febrero. While I adopted this approach with the intention of developing a broad understanding of how the right to water developed and influenced water provision on many levels, it also presents opportunities for further research. As previously noted, the Bolivian government has and continues to undertake rounds of assessments and planning specifically to improve water provision in peri-urban communities across Bolivia (SWP I and II). However, planning for water provision in the peri-urban interface has identified the need to build environmental sustainability and tackle sources of contamination to water sources in peri-urban areas, although no firm initiatives have been rolled out yet, particularly in terms of tackling sanitation in peri-urban areas. These assessments do not have the scope to explore some of the social dynamics that affect the institutional sustainability of DWCs, their capacity to provide equitable water distribution or the impact of local power relations. Meanwhile the role of DWCs has been recognised, and challenges to institutional sustainability have been recognised to some extent a more integrated development-planning model might consider the impact of declining levels of participation on the institutional sustainability of DWCs, as an example.

The DWCs of Cochabamba are distinctive, because of their numbers, their organisation and the support they have had in light of the numerous NGOs that have taken an interest in Cochabamba since the Water War. State organisations such as SENASBA are seeking to encourage the development of community-led water providers in rural and peri-urban areas as part of their plans to improve access to water with funding



recently received from the IADB. It would thus be valuable to undertake further research into the role and sustainability of the community managed water systems in other peri-urban regions of Bolivia. This could be complemented by comparative research into the affect of on-going endeavours by the state to support community water providers in different parts of Bolivia.

Furthermore, community-led water provision has increasingly been advocated by regional platforms of water providers (CLOCSAS 2012) in Latin America as an alternative to state and/or private water provision. This is in light of the failure of the uniform nationalisation or privatisation of water provision to meet the water needs of marginalised groups. These platforms could provide entry points to explore and compare the potential of community-led water provision to address the water needs of rural and peri-urban communities, across the Andes and Latin America.

This thesis has demonstrated that community led water provision, and the co-production of water services has the capacity to do more than meet the water needs of peri-urban communities. Indeed, as demonstrated in this thesis peri-urban DWCs often cannot meet the local water needs of communities (as outlined in chapter 6 and 7). Nonetheless, some community members continue to participate in their DWCs and defend their right to provide water locally, because these organisations serve a social and political function. Despite the fact that the water service provided by DWCs is often more expensive, intermittent and contaminated, member continue to defend these institutions. Perhaps this is because these institutions have brought some socio-political agency to peri-urban communities that have historically been marginalised by the state.

In light of the growing Latin American platforms for community-led water providers, and their increasing visibility (in events such as FAME 2012) and agency, further regional research could be undertaken. This could

look into the emancipatory potential of community-led or co-produced water systems for marginalised communities.

Chapter 7 of this thesis explored some of the elements that offer up challenges and opportunities to enhance the sustainability of water provision in peri-urban areas. This thesis reflected on frameworks that reflected the experiences of NGOs and development agencies working with rural community water providers. It also reflected on the specific social dynamics and juridical plurality of the peri-urban interface that affected the DWCs. This thesis did not have the scope to comprehensively explore all the factors that might affect the sustainability of water provision in the peri-urban interface. However, while undertaking my fieldwork and analysing the data it became evident that there are specific peri-urban dynamics that are poorly understood, but which affect the sustainability of water provision in the Zona Sur. Chapters 5, 6 and 7 of this thesis demonstrate how rapidly peri-urban communities change over time. Chapter 7 demonstrates how over time, developing urban aspirations can undermine community structures of water management. Further research could be undertaken to develop a more detailed understanding of the factors that influence the sustainability of water provision in the peri-urban interface.

Finally, while beyond the capacity of this thesis, there is a real shortage of accurate demographic and cartographic data on the peri-urban Zona Sur of Cochabamba. It became evident through the course of my fieldwork that neither the municipality nor the state had up to date information on these rapidly expanding regions of the peri-urban interface. Population figures were based on projected, and often contested census figures, that were over a decade old and did not incorporate data from informal settlements. Meanwhile maps of settlements showed huge disparities with the satellite images, where more settlements appeared or settlements had significantly grown (see annex 1). The municipality did not know where every well, or community water system was. Furthermore, the state and social movements had limited or no

understanding of the aquifers that they were exploiting. NGOs, research institutions, or academics often produced some data or maps on the region, but often this data wasn't shared with the other organisations working in the area. Researchers, planners and communities alike would benefit from good basic cartographic, demographic and geographical data that was readily available to all.

### **Postscript**

I returned to Villa 15 de Febrero in July 2011 to find out whether the new pipeline that had been under construction while I was in the barrio had been completed and inaugurated. I found that infighting within the committee meant that most of the work was now being undertaken by the DWC treasurer, who would still attend ASICASUDD-EPSAS workshops on system maintenance, even though there wasn't any water in the system. I met the water secretary Doña Petra to ask what had happened, and she told me that people had not paid their inscription fees and so the committee hadn't paid her salary for several months. The water levels had declined further, and in light of the report commissioned by ASICASUDD-EPSAS, they felt it would be better to buy water in bulk every 2 weeks. As the community members were refusing to pay their bills they could not afford to pay to bring water in, so the water committee had stopped functioning. Doña Petra had been to ASICASUDD-EPSAS to ask for help and was told that the committees must now work together to tackle administrative issues, and that there was no funding available to support the DWC. While there was new infrastructure in place, there was insufficient water to supply it. Furthermore, declining levels of participation and willingness to pay for the service provided had undermined the DWC.

A few kilometres to the north of Villa 15 de Febrero President Evo Morales inaugurated the JICA pipeline that connects 50,000 people to the mainline water supply. A network delivers water to the pre-existing OTB of committee systems. The system promises to supply water to this region, once the Misicuni project is complete. Residents in the region

were given a choice, would they like to be direct customers of SEMAPA, or would they prefer that the DWCs or OTBs bought the water in block and continued to manage and distribute the water, a continuation and development in the model of co-gestion promoted by the committees of ASICASUDD-EPSAS. The communities have for the time being requested to manage the distribution of water themselves, as they don't trust SEMAPA.

The JICA project was completed as relationships between ASICASUDD-EPSAS and the state cooled (for reasons outlined in chapter 6), meaning that there was no funding for new projects on the horizon. Consequently some members of the barrio 15 de Febrero and surrounding areas are now open to the idea that SEMAPA will come to provide water to the region, either by providing water in bulk or supplying water to the community as a whole. The future of the DWC, Agua Sur, is in the balance.

It would be better if semapa came, if they took charge of all of this, I have always said I hope that semapa comes, then the people won't have to participate in the meetings, in the marches, they won't have to do a thing. Semapa works like that, so I think the people really want that, they just want to pay and that's the end of it. Only then will the vecinos learn, they will realise that they will have to pay their bills on time, and here they don't pay, the system doesn't work, they don't value this system, they don't realise the work the meetings the hours that we have put towards this, they don't care.<sup>120</sup>

DWCs continue to operate in the Zona Sur in light of the failure of the municipal water utility. DWCs and ideas of co-gestion present opportunities and challenges not only to develop and co-produce sustainable water provision in the peri-urban interface but also to create spaces for marginalised groups to participate in local water governance. Nonetheless, overcoming many of these challenges linked to developing sustainable water provision requires partnerships between the community and the state to be developed further. To date state and NGO initiatives

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<sup>120</sup> DWC secretary, Cochabamba, September 20<sup>th</sup> 2011.

have only addressed some of the challenges that undermine the sustainability of DWC-led provision. Reforms under the banner of the right to water have the potential to support and develop peri-urban DWCs, but Agua Sur's recent history reveals how fragile DWC-led water management can be in the peri-urban interface.

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**March 2003 (end of rainy season)**

**October 2007 (end of dry season)**

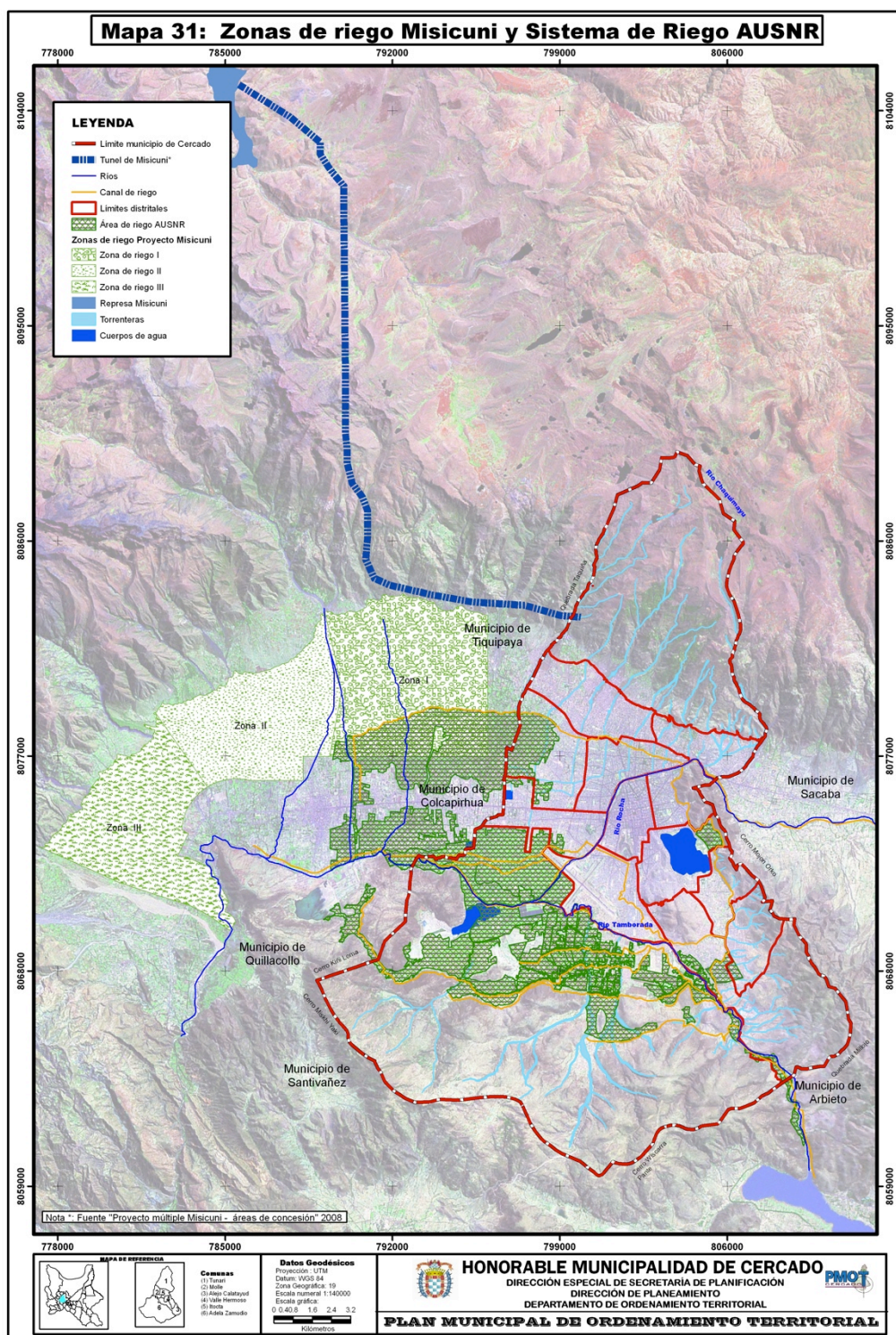
**Appendix 1: Time lapsed images of communities surrounding the municipal refuse dump, K'ara K'ara (circled), in the Zona Sur. Highlights population growth and seasonality**



**July 2009 (dry season)**

**May 2005 (dry season)**





## Appendix 2: Misicuni Plan